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Service Manual

ORDER NO.
ARP3099

PROJECTION MONITOR RECEIVER

PRO-720HD
PRO-620HD
PRO-520HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	PRO-720HD	PRO-620HD	PRO-520HD		
KUXC/CA	○	○	○	AC120V	

- **This service manual should be used together with the following manual(s):**

Model No.	Order No.	Remarks
PRO-720HD PRO-620HD PRO-520HD	ARP3095	SAFTY INFORMATION, EXPLODED VIEWS AND PARTS LIST, BLOCK DIAGRAM AND SCHEMATIC DIAGRAM, PCB CONNECTION DIAGRAM, PCB PARTS LIST

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6. ADJUSTMENT

6.1 INTRODUCTION

• IMPORTANT

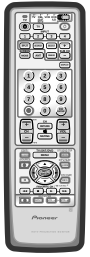
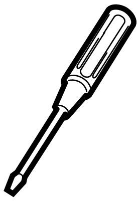
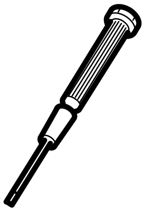
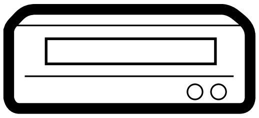
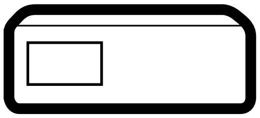
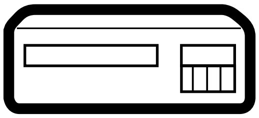
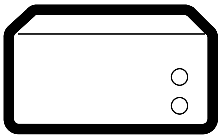
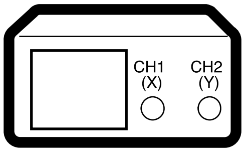
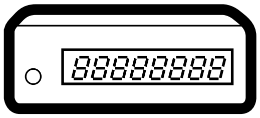
When replacement of the following assemblies are required during repairs, be sure to replace the EEPROMs with the mounted ones in order to retain the adjustment data of the unit and to facilitate adjustment after the replacement of the assemblies.

Name of Assy	EEPROM	Main Contents of Memory
SIGNAL Assy	IC2454 [24LC32(I)P]	Adjustment data, such as W/B and color data, in FACTORY mode User data set on the MENU
DIGITAL CONV. Assy	IC1410 [24LC128P]	Convergence adjustment data
	IC1656 [24LC08B(I)P]	Convergence offset data

Notes:

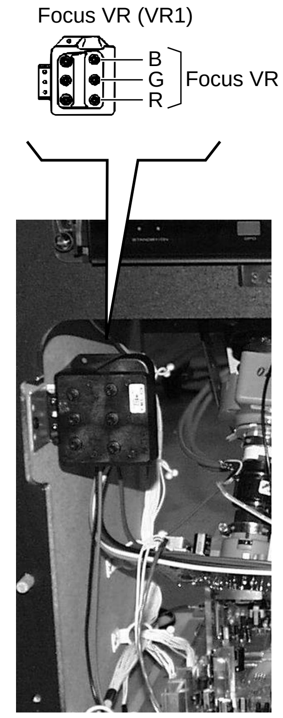
- Even if the EEPROMs are replaced, adjustment may be necessary, depending on the part or assembly to be replaced.
  For details, see page 186.
- Even if the EEPROMs are replaced, if the EEPROMs are damaged or if their data have been changed from the adjustment data, the status before the failure will not be restored. Check the status of the unit after replacement of the EEPROMs, and readjust if necessary.

6.2 JIGS AND MEASURING INSTRUMENTS

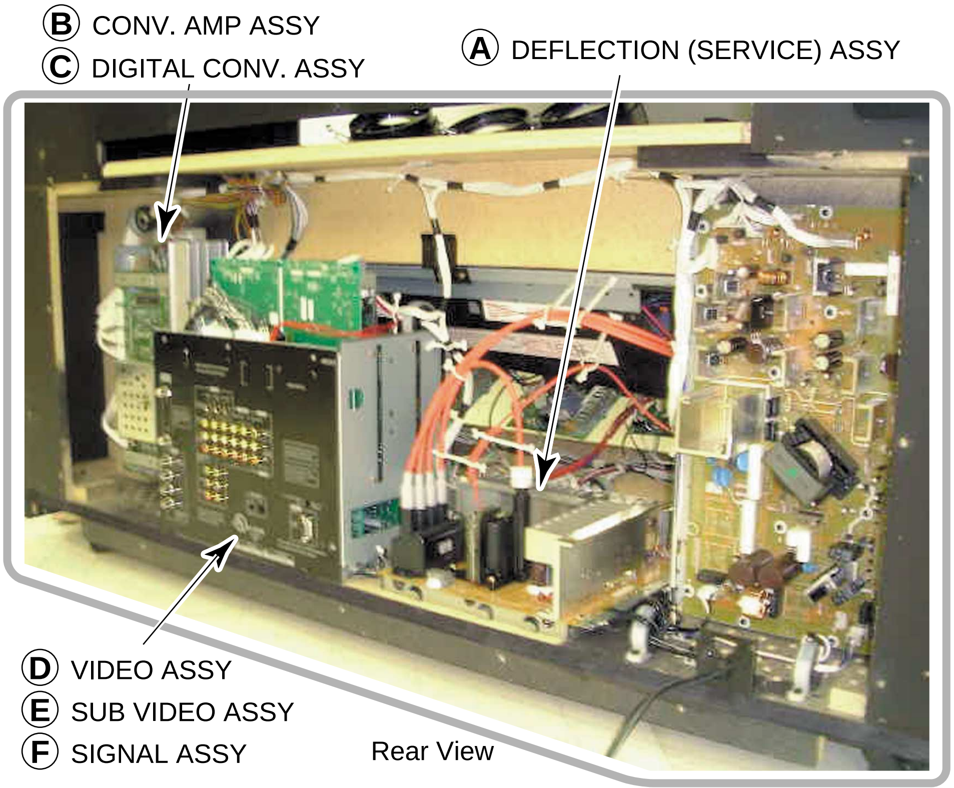
 Remote control unit AXD1458	 ⊖ Screwdriver	 ⊖ Adjustment screwdriver	 Color bar generator
 D. DC Voltmeter	 LD Player	 Monoscope	 Dual-trace oscilloscope
 Frequency counter	 For HD Signal generator		

6.3 ADJUSTMENT LOCATION AND ITEMS

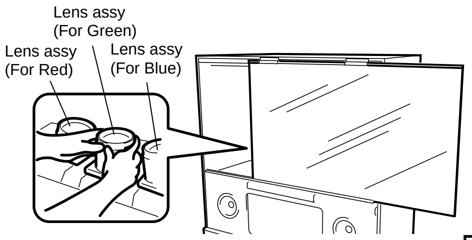
■ Assembly Adjustment Location

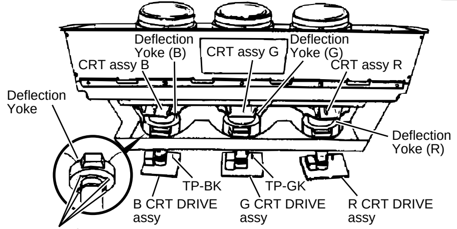

Focus VR (VR1)
B
G
R
Focus VR

Front View


Ⓑ CONV. AMP ASSY
Ⓒ DIGITAL CONV. ASSY
Ⓐ DEFLECTION (SERVICE) ASSY
Ⓓ VIDEO ASSY
Ⓔ SUB VIDEO ASSY
Ⓕ SIGNAL ASSY

Rear View


Lens assy (For Green)
Lens assy (For Red)
Lens assy (For Blue)


Deflection Yoke (B)
CRT assy G
Deflection Yoke (G)
CRT assy B
CRT assy R
Deflection Yoke
Deflection Yoke (R)
TP-BK
TP-GK
B CRT DRIVE assy
G CRT DRIVE assy
R CRT DRIVE assy
Centering magnet

(Turn in either direction untill cross signal becomes white.)

■ Adjustment Items

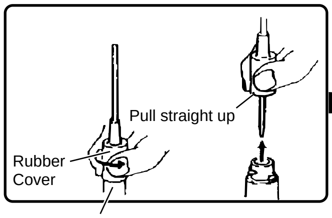
❶ Brightness Adjustment
❷ Deflection Yoke Adjustment
❸ Focus Adjustment
❹ Test-cross Position Check
❺ Screen Size Adjustment
❻ Convergence Adjustment
❼ White Balance Adjustment
❽ Panel Adjustment
❾ Panel Adjustment for DTV

MEASURING METHOD

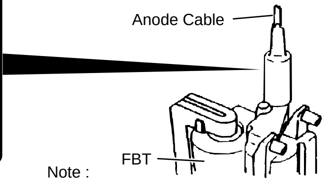
Disconnect the FBT anode cable as shown below.
Measure at the point where the cable enters the FBT.

Caution : Take extra precaution when measuring the voltage. High voltage are also present in surrounding circuit boards. (CRT assy, POWER SUPPLY assy)

SERVICEMAN WARNING
Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.


Pull straight up
Rubber Cover

Holding the rubber cover firmly, turn counterclockwise and check that the lock has been disengaged.


Anode Cable
FBT

Note :
When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

■ Assembly Adjustment Location Guide

If POWER SUPPLY ASSY	is repaired or replaced	No adjustment is required
If DEFLECTION SERVICE ASSY	is repaired or replaced	❶ Brightness Adjustment (*2) ❸ Focus Adjustment (VR1: FOCUS VR) (*2) ❺ Screen Size Adjustment (*2) ❻ Convergence Adjustment (*2) ❼ White Balance Adjustment (*2)
If CONV. AMP ASSY	is repaired or replaced	❺ Screen Size Adjustment (*2) ❻ Convergence Adjustment (*2)
If R, G or B CRT DRIVE ASSY	is repaired or replaced	❶ Brightness Adjustment (*1) ❼ White Balance Adjustment (Composite STD :*1, Others :*2)
If DIGITAL CONV. ASSY	is repaired or replaced	❸ Focus Adjustment (*2) ❹ Test-cross Position Check (*2) ❺ Screen Size Adjustment (*2) ❻ Convergence Adjustment (*2)
If VIDEO ASSY	is repaired or replaced	❶ Brightness Adjustment (*2) ❼ White Balance Adjustment (Composite STD : *1, Others :*2) ❽ Panel Adjustment (*1) ❾ Panel Adjustment for DTV (*1)
If SIGNAL ASSY	is repaired or replaced	❼ White Balance Adjustment (*2)
If SUB VIDEO ASSY	is repaired or replaced	❹ Test-cross Position Check (*2) ❼ White Balance Adjustment (*2)
If AV I/O ASSY	is repaired or replaced	No adjustment is required
If CRT ASSY (R, G or B)	is repaired or replaced	❶ Brightness Adjustment (*1) ❷ Deflection Yoke Adjustment (*1) ❸ Focus Adjustment (Lens : *2, VR1 Focus VR :*1) ❻ Convergence Adjustment (*2) ❼ White Balance Adjustment (Composite STD : *1, Others :*2)
If LENS ASSY (R, G or B)	is repaired or replaced	❸ Focus Adjustment (Lens : *1, VR1 Focus VR :*2) ❻ Convergence Adjustment (*2)
If MIRROR and SCREEN	is repaired or replaced	❻ Convergence Adjustment (*2)
If OTHER ASSY	is repaired or replaced	No adjustment is required

Note :
*1: Readjustment necessary
*2: Turn on the power and confirm the screen. When adjustment deviates, it is readjusted if necessary.

- When the EEPROMs are replaced, check the status of the unit.
- If any IC of the EEPROM is damaged, readjustment of all the items is necessary.

- The necessary adjustment items differ, depending on the assembly or optical part replaced. Check and readjust the adjustment items corresponding to the replaced assembly or part, following adjustment procedures 1 to 9.
  Example: When the DIGITAL CONV. Assy is replaced, perform the following:
  3. Focus check/adjustment → 4. Test-cross position check/adjustment → 5. Screen size check/adjustment
  → 6. Convergence check/adjustment

6.4 FACTORY ADJ MODE

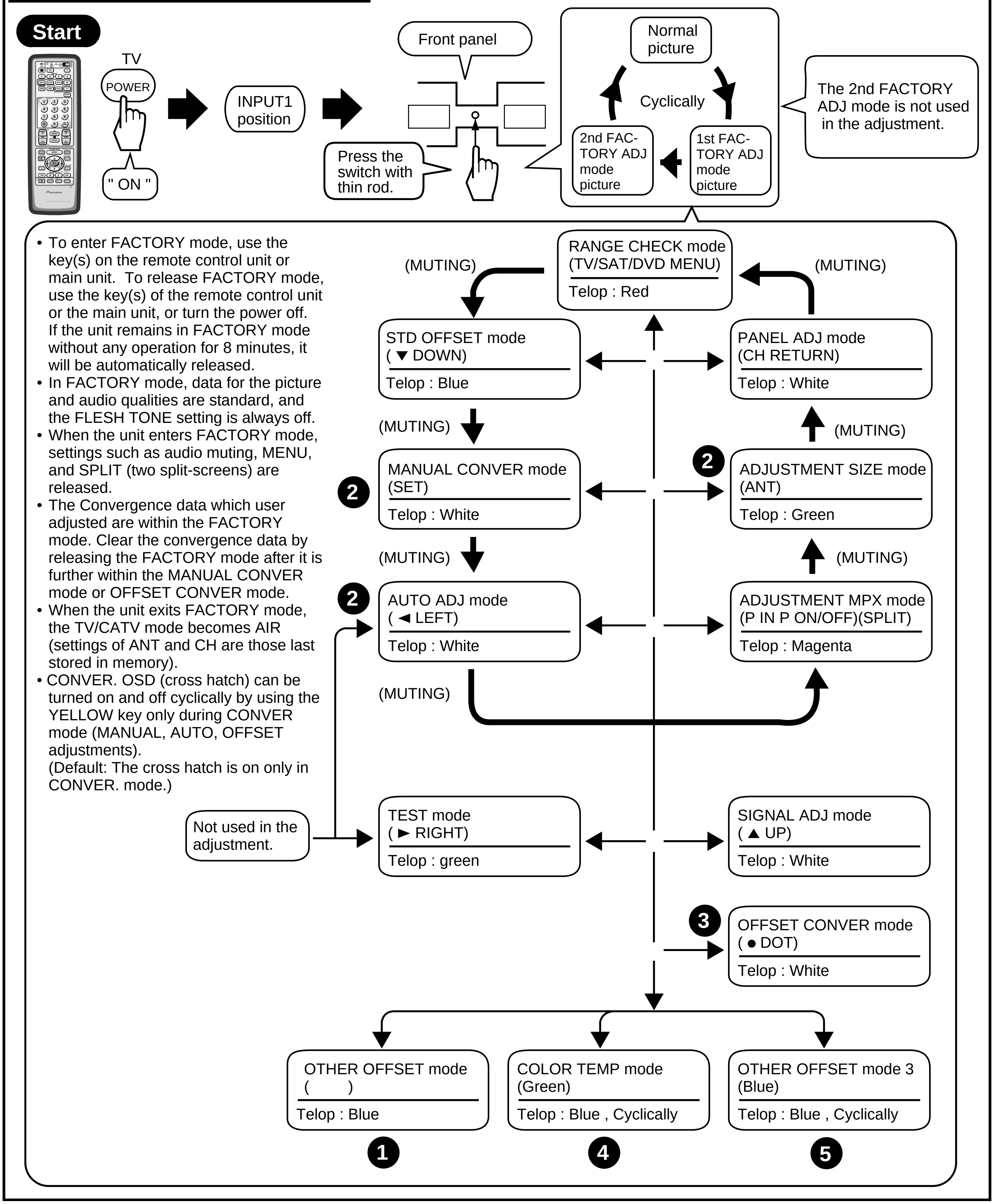
■ Factory Adjustment Mode

Start .... Start adjusting

1st FAC ...... Select 1st FACTORY ADJ mode, then adjust.

Select 1st FACTORY ADJ Mode

Selecting the mode for adjustment operations.


Start
TV
POWER
" ON "
INPUT1 position
Front panel
Press the switch with thin rod.
Normal picture
Cyclically
2nd FAC-TORY ADJ mode picture
1st FAC-TORY ADJ mode picture
The 2nd FACTORY ADJ mode is not used in the adjustment.
RANGE CHECK mode (TV/SAT/DVD MENU) Telop : Red
(MUTING)
(MUTING)
STD OFFSET mode (▼ DOWN) Telop : Blue
PANEL ADJ mode (CH RETURN) Telop : White
(MUTING)
(MUTING)
2
MANUAL CONVER mode (SET) Telop : White
2
ADJUSTMENT SIZE mode (ANT) Telop : Green
(MUTING)
(MUTING)
2
AUTO ADJ mode (◄ LEFT) Telop : White
ADJUSTMENT MPX mode (P IN P ON/OFF)(SPLIT) Telop : Magenta
(MUTING)
Not used in the adjustment.
TEST mode (► RIGHT) Telop : green
SIGNAL ADJ mode (▲ UP) Telop : White
3
OFFSET CONVER mode (● DOT) Telop : White
OTHER OFFSET mode ( ) Telop : Blue
1
COLOR TEMP mode (Green) Telop : Blue , Cyclically
4
OTHER OFFSET mode 3 (Blue) Telop : Blue , Cyclically
5

- To enter FACTORY mode, use the key(s) on the remote control unit or main unit. To release FACTORY mode, use the key(s) of the remote control unit or the main unit, or turn the power off. If the unit remains in FACTORY mode without any operation for 8 minutes, it will be automatically released.
- In FACTORY mode, data for the picture and audio qualities are standard, and the FLESH TONE setting is always off.
- When the unit enters FACTORY mode, settings such as audio muting, MENU, and SPLIT (two split-screens) are released.
- The Convergence data which user adjusted are within the FACTORY mode. Clear the convergence data by releasing the FACTORY mode after it is further within the MANUAL CONVER mode or OFFSET CONVER mode.
- When the unit exits FACTORY mode, the TV/CATV mode becomes AIR (settings of ANT and CH are those last stored in memory).
- CONVER. OSD (cross hatch) can be turned on and off cyclically by using the YELLOW key only during CONVER mode (MANUAL, AUTO, OFFSET adjustments).
  (Default: The cross hatch is on only in CONVER. mode.)

❶ OTHER OFFSET mode

To enter the OFFSET mode of each picture quality, use the following keys and codes of the remote control unit:

		Key(s) on the Remote Control Unit
A	STD OFFSET MODE	DOWN
C	COMP (15 kHz) OFFSET MODE	P in P CH-, SUB CH-
D	COMP (31 kHz, 33 kHz) OFFSET MODE	P in P CH+, SUB CH+
B	TV OFFSET MODE	RED
V	COLOR TEMP B&W for STD	DTV MENU
L	COLOR TEMP FILM for STD & GAME	INFO
T	RGB OFFSET MODE	CH ENTER

❷ The screen size modes change cyclically with each press of the SCREEN key as follows:

→ ① FULL → ② ZOOM → ③ CINEMA → ④ NATURAL → ⑤ FULL (HD) ↩

Note :The initial mode is always FULL.

❸ The OFFSET CONVER. modes change cyclically with each press of the DOT key as follows:

→ ① OFFSET CONVER. MODE 1 → ② OFFSET CONVER. MODE 2 → ③ OFFSET CONVER. MODE 3 ↩

Note :The initial mode is always OFFSET CONVER. MODE 1.

❹ The offset data of the picture quality in COLOR TEMP mode change cyclically with each press of the GREEN key as follows:

①	J	COLOR TEMP	NEWS
②	K	COLOR TEMP	LIVE
③	M	COLOR TEMP	FILM for REF THEATER
④	X	COLOR TEMP	B&W for REF THEATER
⑤	β	COLOR TEMP	NEWS for R, G, B
⑥	γ	COLOR TEMP	LIVE for R, G, B
⑦	Y	COLOR TEMP	FILM for R, G, B
⑧	Z	COLOR TEMP	B&W for R, G, B

Note :The initial mode is always COLOR TEMP NEWS when the GREEN key is pressed.

❺ The offset data of picture quality change cyclically with each press of the BLUE key as follows:

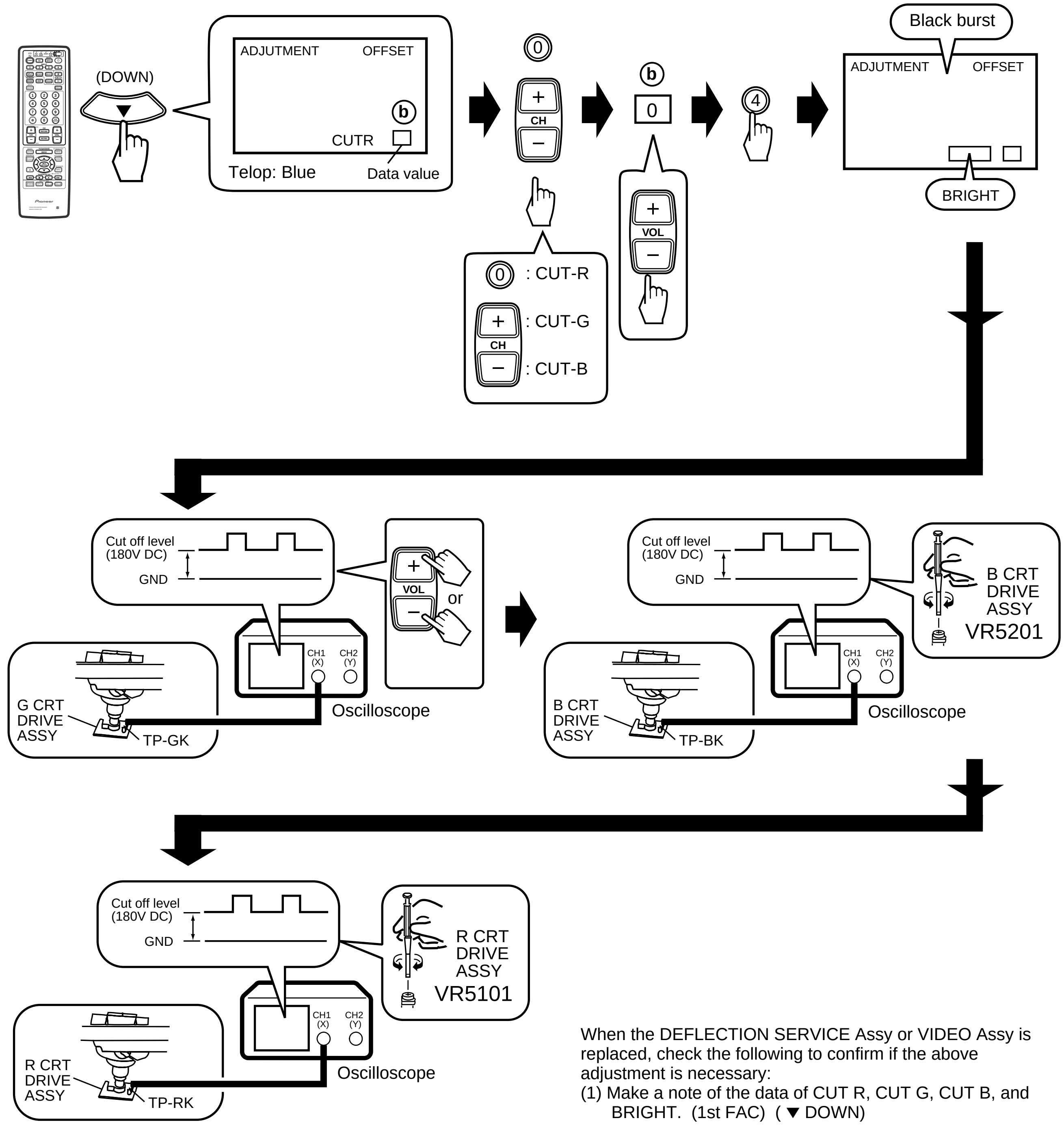
→ ① E REF THEATER OFFSET MODE → ② F GAME OFFSET MODE → ③ δ REF THEATER OFFSET MODE for RGB
↓
④ ε GAME OFFSET MODE for RGB ↩

Note :The initial mode is always (1) when the BLUE key is pressed.

6.5 ADJUSTMENT

1 Brightness Adjustment

Start **1st FAC** Input signal : Black Burst (INPUT 1)



(DOWN)
ADJUTMENT
OFFSET
b
CUTR
Telop: Blue
Data value
0
CH
b
0
VOL
4
Black burst
ADJUTMENT
OFFSET
BRIGHT
0 : CUT-R
CH + : CUT-G
CH − : CUT-B
Cut off level (180V DC)
GND
VOL
or
G CRT DRIVE ASSY
TP-GK
CH1 (X)
CH2 (Y)
Oscilloscope
Cut off level (180V DC)
GND
B CRT DRIVE ASSY
VR5201
B CRT DRIVE ASSY
TP-BK
CH1 (X)
CH2 (Y)
Oscilloscope
Cut off level (180V DC)
GND
R CRT DRIVE ASSY
VR5101
R CRT DRIVE ASSY
TP-RK
CH1 (X)
CH2 (Y)
Oscilloscope

When the DEFLECTION SERVICE Assy or VIDEO Assy is replaced, check the following to confirm if the above adjustment is necessary:

(1) Make a note of the data of CUT R, CUT G, CUT B, and BRIGHT. (1st FAC) (▼ DOWN)

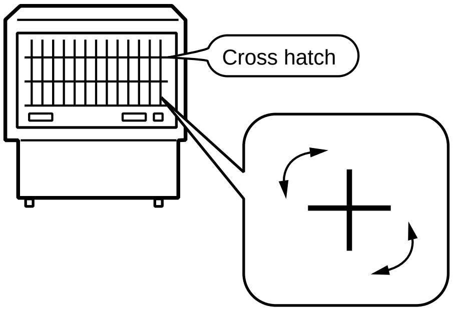
(2) Input "0" as parameters for (1) and check TP-RK, TP-GK and TP-BK of the CRT DRIVE assembly. If the levels are within 180 V ±5 V, the adjustment is not necessary.
Input the noted data.
If the levels are not within the above level, proceed with the above adjustment.

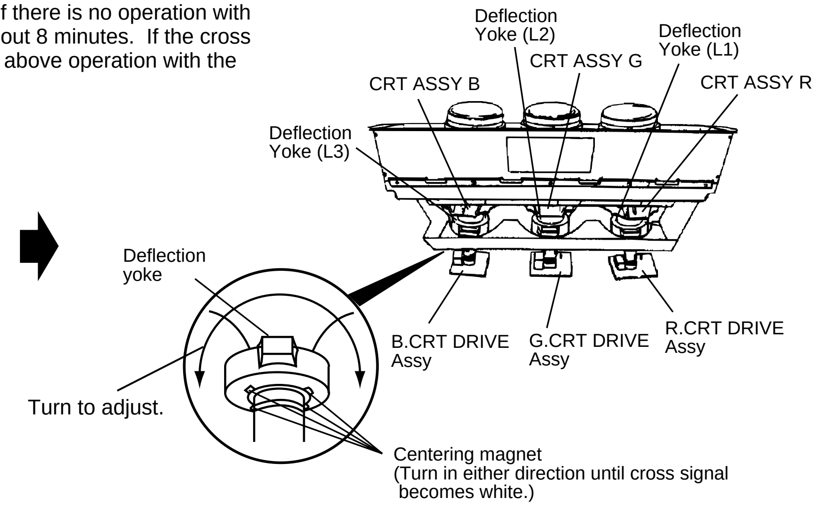
2 Deflection Yoke Adjustment

2 -1 Deflection Yoke Lean Adjustment

Start

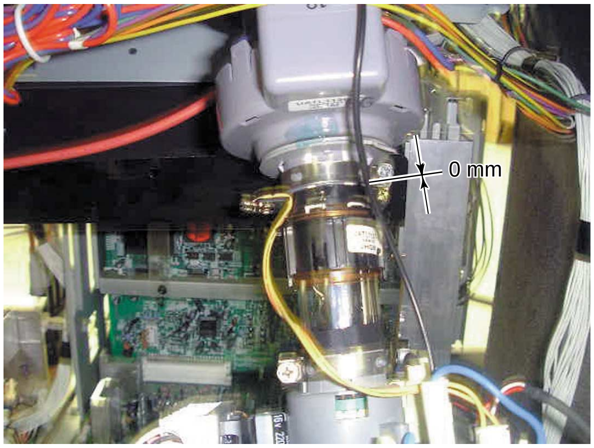
- Input a stable signal (e.g. from an LD player or SG) to the INPUT 1 connector.
- MENU → SETUP → Enter the MULTI-POINT (FULL) in the CONVERGENCE.
- The cross hatch disappears if there is no operation with the remote control unit for about 8 minutes. If the cross hatch disappears, repeat the above operation with the remote control unit.


Cross hatch


Deflection Yoke (L2)
Deflection Yoke (L1)
CRT ASSY G
CRT ASSY B
CRT ASSY R
Deflection Yoke (L3)
Deflection yoke
B.CRT DRIVE Assy
G.CRT DRIVE Assy
R.CRT DRIVE Assy
Turn to adjust.
Centering magnet
(Turn in either direction until cross signal becomes white.)

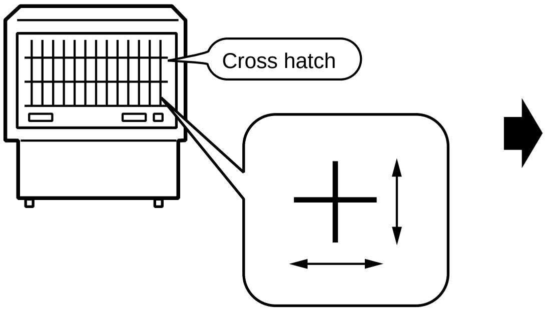
- Turn the deflection yoke of the replaced CRT so that the cross hatch of the color corresponding to the replaced CRT converges with that of the CRTs not replaced.

- When a CRT is replaced, check the position of the VM (Velocity Modulation) yoke.

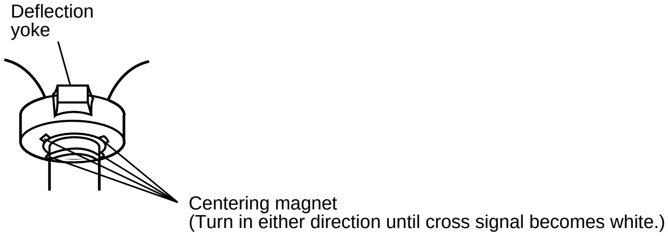


2 -2 Screen Center Adjustment

Start


Cross hatch

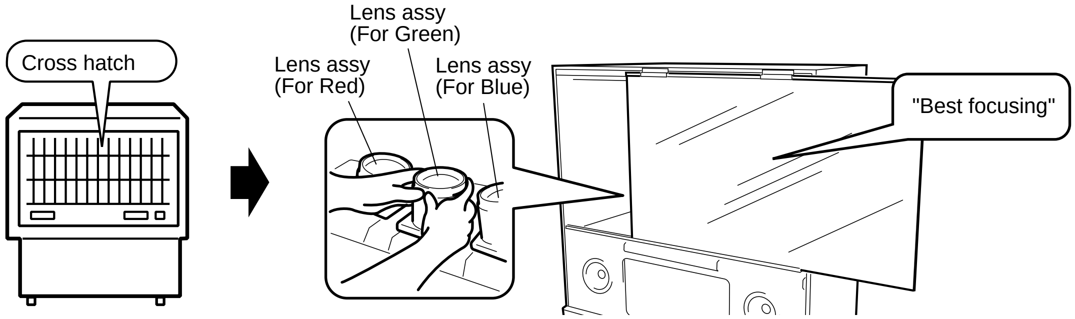
- Move the centering magnet of the deflection yoke for the replaced color so that the horizontal and vertical lines at the center of the screen align with the lines for a color not replaced.
- Secure the centering magnet from moving after adjustment is finished.


Deflection yoke
Centering magnet
(Turn in either direction until cross signal becomes white.)

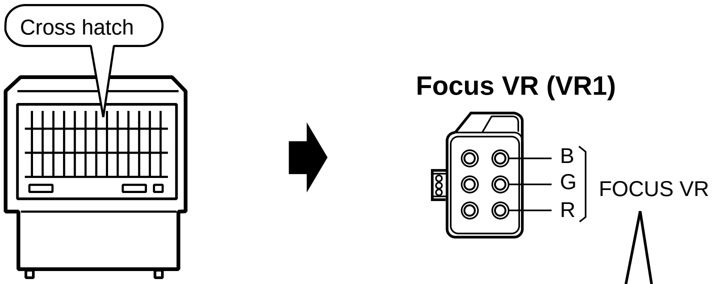
3 Focus Adjustment

3 -1 Focus Adjustment of Lens Assy

Start


Cross hatch
Lens assy (For Green)
Lens assy (For Red)
Lens assy (For Blue)
"Best focusing"

3 -2 Focus VR Adjustment


Cross hatch
Focus VR (VR1)
B
G
R
FOCUS VR

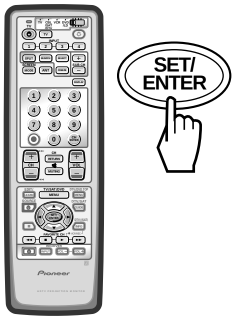
Turn the Focus VR for best focusing.

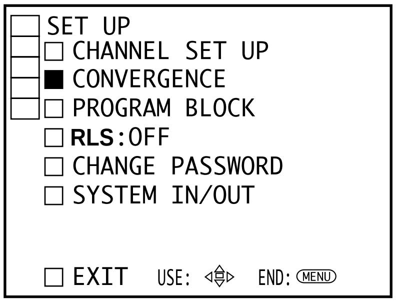
❹ Test-cross Position Check

- Check the test-cross position. If it is located within ± 20 mm from the center of the screen, no adjustment is required. If it is not, adjust the position as follows:
- Input a stable NTSC (480i) signal (e.g. from an LD player) and adjust the position.

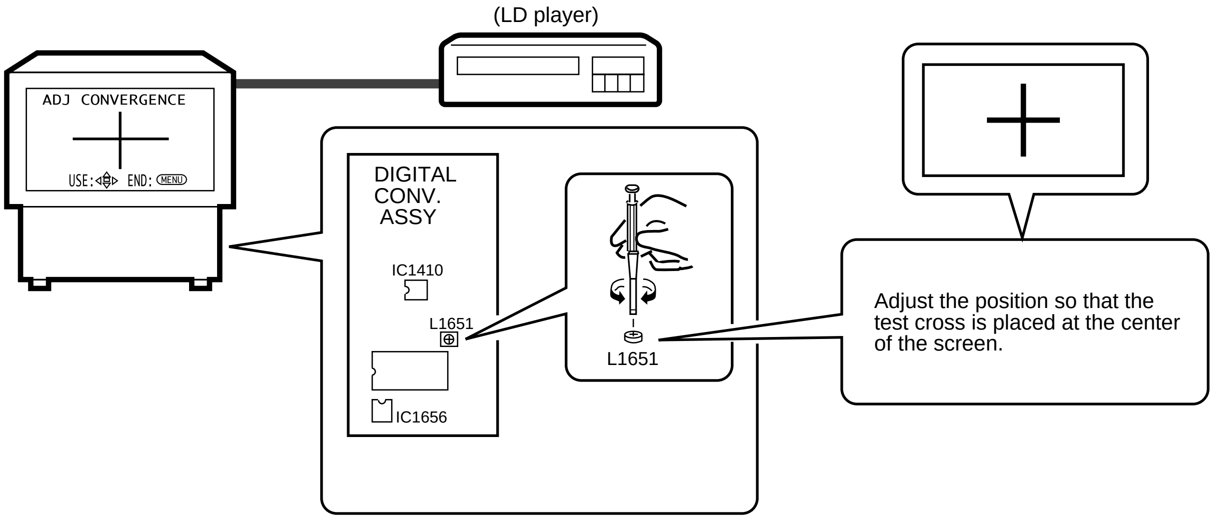
Start

MENU → SETUP → CONVERGENCE → FULL




☐ SET UP
☐ CHANNEL SET UP
■ CONVERGENCE
☐ PROGRAM BLOCK
☐ RLS:OFF
☐ CHANGE PASSWORD
☐ SYSTEM IN/OUT

☐ EXIT USE: ◁⇕▷ END: MENU


(LD player)
ADJ CONVERGENCE
USE: END: MENU
DIGITAL
CONV.
ASSY
IC1410
L1651
IC1656
L1651

Adjust the position so that the test cross is placed at the center of the screen.

5 Screen Size Adjustment

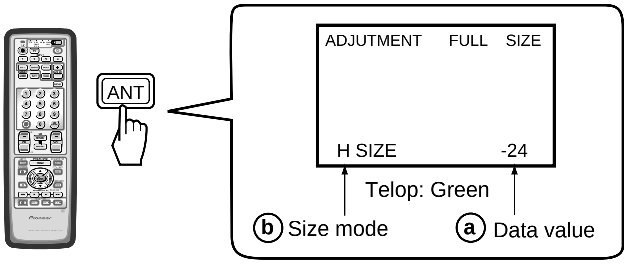
Check if both vertical and horizontal sizes are within 91% ±2%. If they are not, perform the size adjustment as follows:

5-1 Size Mode

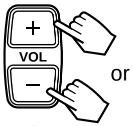
Start **1st FAC**

Note :
Screen mode : FULL

- Mode for roughly adjusting the horizontal and vertical sizes of the main deflection.
- In this mode, the color is green only, screen size is FULL and the contrast is +10.
- The above settings are cleared when this mode is exited.



ⓐ Data value



-128 to 126
(even data only)

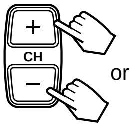
ⓑ Size mode

① ②

① : H Size (15 kHz)
② : V Size

③ ⑥ ⑨ ⓪

③ : H PHA (15K)
⑥ : H SIZE (33K) (fixed value D can be varied)
⑨ : H PHA (31K RGB)
⓪ : H PHA (33K RGB)
CH + : H PHA (31kHz)
CH – : H PHA (33kHz)



Note :
- The adjustment is unnecessory for D so that is set in factory shipment by the most suitable value. However, please adjust it when a screen is missed when displayed the HD source on the screen.
- For H PHA, refer to the section "• Reference."

Table on H SIZE and V SIZE data

Picture Quality Mode	H SIZE	V SIZE
NATURAL WIDE	A	B
CINEMA WIDE	A	B
ZOOM	A	B
FULL	A	B
FULL for HD	A+D	B

A, B : Adjustment values
D : Fixed values
A+D : Addition of A and D

- Perform the H SIZE and V SIZE adjustments only in FULL mode (NTSC MONOSCOPE signal input).
- Release the FACTORY mode, then change the screen mode and confirm that the picture is not missing.

The factory-preset values are as follows:

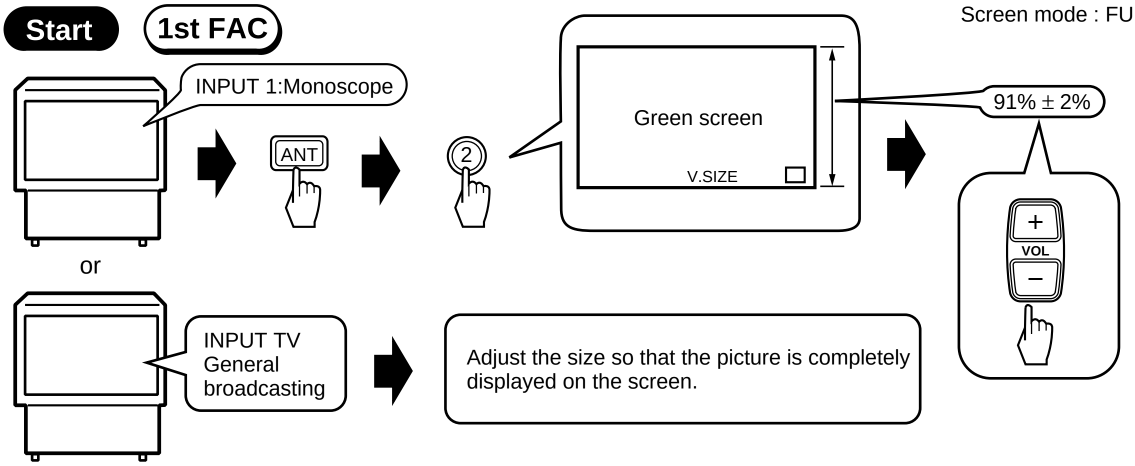
Key No.	Adjustment Value
1 : H SIZE (15K)	Approx. 16 ± 30
2 : V SIZE	Approx. -40 ± 30
6 : H SIZE (33K)	Approx. 60 ± 30

Note: Varies depending on the factory-preset value.

5-2 Vertical Size Adjustment

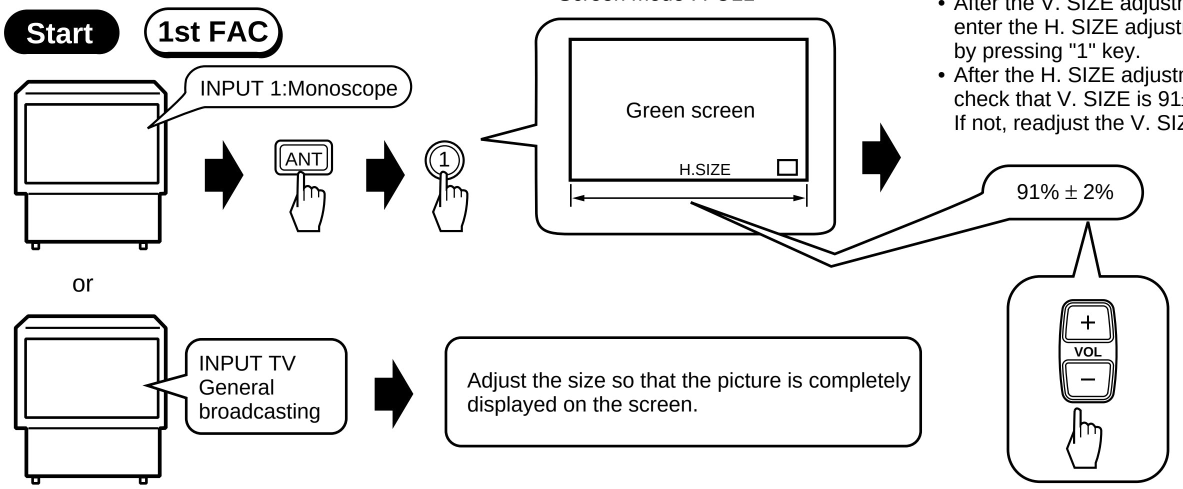
Start **1st FAC**

Note :
Screen mode : FULL



Adjust the size so that the picture is completely displayed on the screen.

⑤ -3 Horizontal Size Adjustment



Note :
Screen mode : FULL

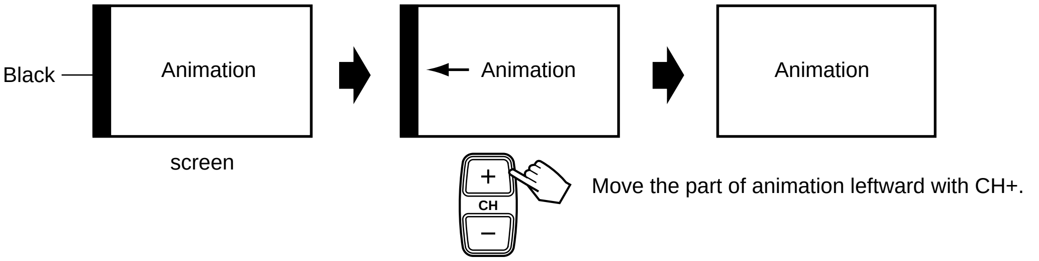
Adjust the size so that the picture is completely displayed on the screen.

Note :
- After the V. SIZE adjustment, enter the H. SIZE adjustment by pressing "1" key.
- After the H. SIZE adjustment, check that V. SIZE is 91± 2%. If not, readjust the V. SIZE.

• Reference

The H PHASE adjustment is required if the left or right part of the screen becomes black, as illustrated below, depending on the format of the input signal (Ex. component 31.5 kHz, RGB 33K etc.).

Ex. Component 31K



Move the part of animation leftward with CH+.

• About H. PHASE

In principle, adjustment of the data for the H. PHASE is not required.
Check whether the H. PHASE data are the factory-preset values, as indicated below:

Key No.	Adjustment Value
3 : H PHA (15K)	40
CH+ : H PHA (31K)	20
CH- : H PHA (33K)	-14
9 : H PHA (31K RGB)	8
0 : H PHA (33K RGB)	-26

15K : CONPOSITE, S COMPONENT (480i)
31K : COMPONENT (480P)
33K : COMPONENT (1080i)

The screen moves to the right or the left if the above data are in variance. (See the above figures.)

Note :
H PHASE is set in factory shipment by the most suitable value. But, there is the case that screen is missed as an upper figure occurs by the signal format of other apparatus to be connected to.
A screen can be improved as the following by the readjustment. However, attention is necessory because in convenience may occur when connected to another apparatus.

❻ CONVERGENCE ADJUSTMENT

1. Procedures

1. When replacinf the DIGITAL CONV. Assy, replace the EEPROM of new DIGITAL CONV. Assy with the EEPROM of old DIGITAL CONV. Assy.
2. Check the initial data for the convergence adjustment.
3. Perform the coarse adjustment for the green to roughly correct distortion of the green.
4. Fine-adjust the green to eliminate any distortion. The green becomes the standard for the red and the blue.
   If necessary, repeat steps 3 and 4. Green adjustment is completed.
5. Perform the coarse adjustment for the red by roughly converging the red with the green.
6. Fine-adjust the red until the red is completely converging with the green.
   If necessary, repeat steps 5 and 6. Red adjustment is completed.
7. Perform the coarse adjustment for the blue by roughly converging the blue with the green.
8. Fine-adjust the blue until the blue is completely converging with the green.
   If necessary, repeat steps 7 and 8. Blue adjustment is completed.
9. Display the green, red, and blue colors at the same time to check the convergence. Readjust the convergence if necessary.

2. Prior to Adjustment

There are five screen modes, and convergence adjustment is required for each mode. For adjustment, input the following video signal:

Table 1 Input signal

Screen mode	Input signal
1. FULL (FULL, 4:3 NORMAL) 2. ZOOM (ZOOM) 3 CINEMA (CINEMA WIDE) 4. NATURAL (NATURAL WIDE)	NTSC (480i) signal
5. FULL for HD (HD/DTV)	HD/DTV (1080i) signal

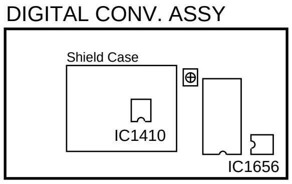
NTSC : Stable signal source, such as an SG or an LD/DVD player
HD : Stable signal source, such as an HD SG or a DTV tuner .

When CRTs are replaced or when the deflection yoke is moved, perform the deflection yoke adjustment, horizontal and vertical size adjustments, and centering magnet adjustments before the convergence adjustment. (See Pages 190, 193 and 194)

3. Convergence Adjustment

3.1 Replacement of the EEPROMs inside the DIGITAL CONV. Assy

IC1410	24LC128P
IC1656	24LC08B (I) P



The data stored in the EEPROMs are as follows:
IC1410
OFFSET CONVER. MODE 1 (DFH, DFV)
OFFSET CONVER. MODE 3
Factory-preset values for convergence
User-adjusted values for convergence (CENTER, MULTI-POINT)

IC1656
OFFSET CONVER. MODE 1 (HDP)
OFFSET CONVER. MODE 2

3.2 Confirmation of convergence data

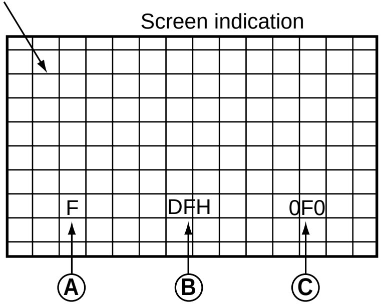
The convergence coarse adjustment modes change cyclically, as shown below, with each press of the DOT key in FACTORY mode:

Convergence coarse adjustment

DOT key (pressed once) : OFFSET CONVER. MODE 1
↓
DOT key (pressed twice) : OFFSET CONVER. MODE 2
↓
DOT key (pressed three times) : OFFSET CONVER. MODE 3
Cyclical change

Check whether the data of MODE 1 and MODE 2 are as shown in Table 2.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



Ⓐ

Screen mode:
F : FULL Z : ZOOM C : CINEMA
N : NATURAL H : FULL for HD
The Screen modes change cyclically with each press of the SCREEN mode key.

Ⓑ

Adjustment items can be selected with the numeric keys.
See Table 2.

Ⓒ

Adjustment data:

MAX	1FF
	100
	001
CNT	000
	3FF
	2FF
MIN	200

Data can be adjusted with the VOL+ and VOL- keys.

Table 2 OFFSET CONVER DATA

OFFSET CONVER MODE 1

Numeric Key	Adjustment Item	Screen Mode				
		F FULL	Z ZOOM	C CINEMA	N NATURAL	H HD FULL
		140	140	140	140	160
1	DFH	0F0	0D0	0D0	0D0	100
2	DFV	070	070	070	070	070
3	HDP	010	010	010	010	010

OFFSET CONVER MODE 2

Numeric Key	Adjustment Item	Screen Mode				
		F FULL	Z ZOOM	C CINEMA	N NATURAL	H HD FULL
1	HFP	0CC	0CC	0CC	0CC	0D0
2	HCP	00F	00F	00F	00F	015
3	HTP	047	047	047	047	044
4	HHD	0EE	0EE	0EE	0EE	0E9
5	HPW	00C	00C	00C	00C	00F
6	V1C	01F	029	025	022	01D
7	V1S	000	000	000	000	000
8	VFP	01D	02D	013	033	065

The above offset convergence values are common to the PRO-720 HD/ PRO-620HD and PRO-520HD.

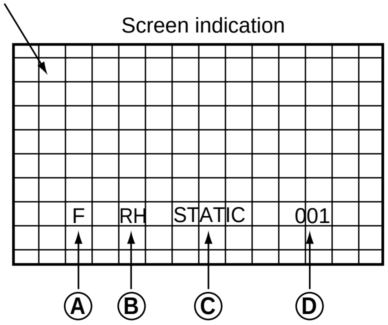
If the offset convergence values are as indicated in Table 2, proceed to 3.3. If the values are not the same, adjust the values with the numeric keys and VOL +/– keys.

Example:
To check HDP in ZOOM mode of OFFSET CONVER. MODE 1
① Enter the FACTORY mode.
② Enter the OFFSET CONVER. MODE 1 by pressing the DOT key once.
③ Enter the ZOOM screen mode by pressing the SCREEN mode key once. (When the unit enters FACTORY mode, the screen mode automatically becomes FULL.)
④ Check the indication on the screen by pressing the numeric key 3.
Indication at the bottom of the screen : Z HDP 010
If the adjustment value is 010, adjustment is not required.
If the adjustment value is other than 010, adjust with the VOL + or VOL- key so that the value becomes 010.

3.3 Coarse Adjustment of the Green

(Proceed with 3.3 and afterwards when the DIGITAL CONV. Assy is not replaced.)
Select adjustment items (STATIC and SIZE of vertical and horizontal lines, etc.) for each GH and GV, and adjust to roughly eliminate distortion. (For GV, peripheral pin distortion adjustment is necessary.)
Press the DOT key three times to enter OFFSET CONVER. MODE 3.
Press the SCREEN mode key and proceed with the adjustment for each screen mode.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



Ⓐ

Screen mode:
F : FULL
Z : ZOOM
C : CINEMA
N : NATURAL
H : FULL for HD

The Screen modes change cyclically with each press of the SCREEN mode key.

Ⓑ

Cyclically changes with the CH+ or CH- key as follows:

RH ↔ RV ↔ BH
↕ ↕
GV ↔ GH ↔ BV

Ⓒ

Adjustment items can be selected with the numeric keys. See Table below.

• Waveforms adjustable in the coarse adjustment of the green

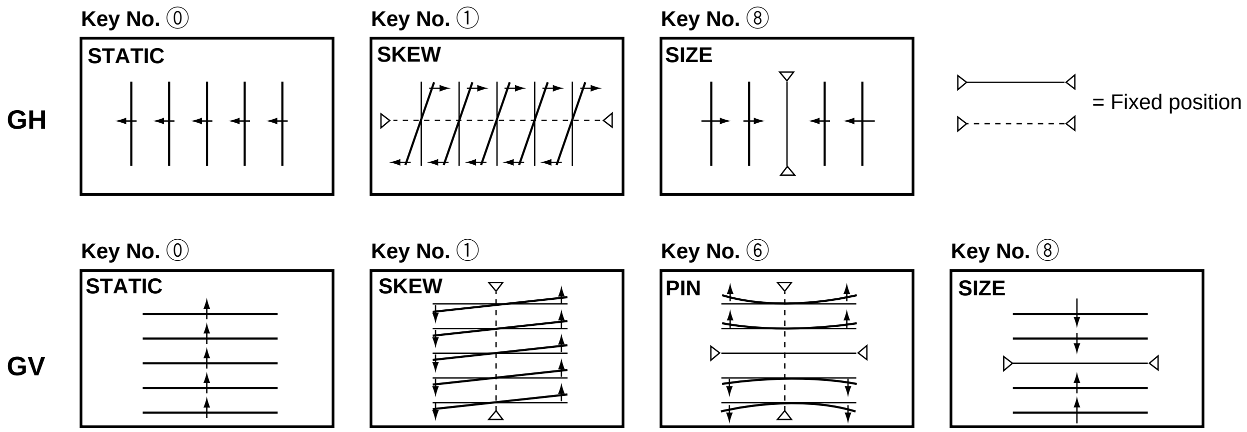
Numeric Key	GH	GV
0	STATIC	STATIC
1	SKEW	SKEW
6		PIN
8	SIZE	SIZE

Ⓓ

Adjustment data:
MAX ↑ 1FF
100
001
CNT ● 000
3FF
2FF
MIN ↓ 200

Data can be adjusted with the VOL+ and VOL- keys.

• Pattern for each adjustment item



Note 1: When the green CRT is replaced, or when the deflection yoke for the green is replaced, prior to the convergence adjustment, tune the center of the image to the center of the screen by turning the centering magnet.
Note 2: When the CONVER. AMP Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.3 above.

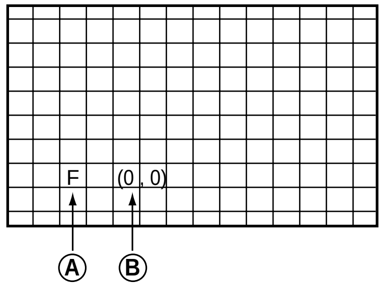
3.4 Fine-adjustment of the Green

Enter MANUAL CONVERGENCE mode by pressing the SET/ENTER key, and make adjustments. Repeatedly make the coarse adjustment as shown in 3.3 if necessary. Proceed with the adjustment for each screen mode. Adjusted values for the green become the standard for the red and the blue.

3.4.1

In MANUAL CONVERGENCE mode entered by pressing the SET/ENTER key, the display becomes as shown below:

Screen indication



Ⓐ

Screen mode:
F : FULL
Z : ZOOM
C : CINEMA
N : NATURAL
H : FULL for HD

The Screen modes change cyclically with each press of the SCREEN mode key.

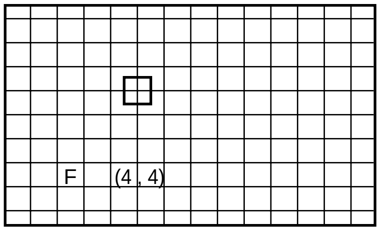
Ⓑ

Coordinates where the cursor (adjustment point) is located
There are 72 adjustment points (8,9) on the coordinates for FULL, ZOOM, CINEMA, NATURAL and FULL for HD modes, but the coordinates actually used for adjustment are as follows (the coordinates outside the ranges indicated below are outside the screen, and adjustment will not have any effect on the screen):
FULL : (0, 1) to (7, 9)
ZOOM : (0, 1) to (7, 7)
CINEMA : (0, 1) to (7, 8)
NATURAL : (0, 1) to (7, 8)
HD for FULL : (0, 1) to (7, 9)
(X, Y): X=abscissa, Y=ordinate
Some coordinates may be outside the screen and invisible.
The point at coordinates (0, 0) is at the upper left of the screen.

3.4.2

Move the cursor to a point to be adjusted with the cursor move keys.

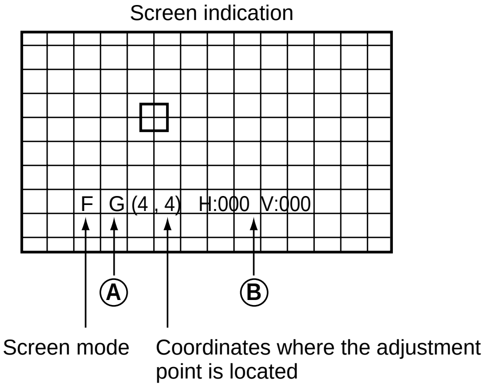
Screen indication



Note: The actual shape of the cursor is " [ ] ".
The position of the cursor in this figure is different from the actual position on the screen.

3.4.3

Press the SET/ENTER key when the point to be adjusted is determined.



Ⓐ

Color to be adjusted:
G: GREEN, R: RED, B: BLUE
To change colors, use the CH+ or CH- key.
The colors change cyclically as follows:
With CH+ : R → B → G → R
With CH- : R → G → B → R

Ⓑ

H : *** Adjustment data in the horizontal direction
V : *** Adjustment data in the vertical direction
(***= hexadecimal number)

Data		
	MAX ↑	1FF
		100
		001
	CNT ●	000
		3FF
		2FF
	MIN ↓	200

For adjustment, move the Line to the desired direction with the cursor keys.

To move the Horizontal Line upward, press the " ▲ " key. (The value decreases.)
To move the Horizontal Line downward, press the " ▼ " key. (The value increases.)
To move the Vertical Line to the left, press the " ◀ " key. (The value decreases.)
To move the Vertical Line to the right, press the " ▶ " key. (The value increases.)

- To select one color, use the SEARCH key for the red, SELECT key for the green, FREEZE key for the blue. Pressing this key toggles color muting on or off.
- To mute all the colors, press the DISPLAY key. To release muting, press the SEARCH, SELECT, or FREEZE key.
- To erase the cross hatch, press the YELLOW key. Pressing this key toggles between display of the cross hatch screen and the input screen.
- To change the brightness of the input screen, use the VOL+ or VOL- key. The brightness increases with the VOL+ key (CONTRAST +10) and decreases with the VOL- key (CONTRAST -40). (The brightness can be changed only in Fine-adjustment mode. The brightness of the cross hatch screen cannot be changed.)

3.4.4

When adjustment of the selected point is finished, press the SET/ENTER key, then adjust the other adjustment points by repeating 3.4.1 to 3.4.4.

3.4.5

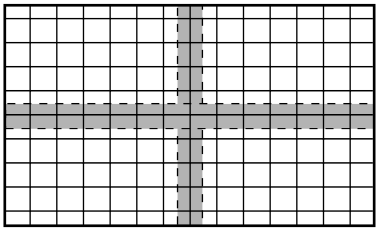
Make the adjustment for the green in each screen mode, and use the green as the standard screen for the red and the blue. To change screen modes, use the SCREEN mode key.

Note: Some coordinates for adjustment points are located outside the screen. Be sure not to make adjustments on those points, because adjustment of those coordinates will have little effect on the screen.

● Adjustment Technique

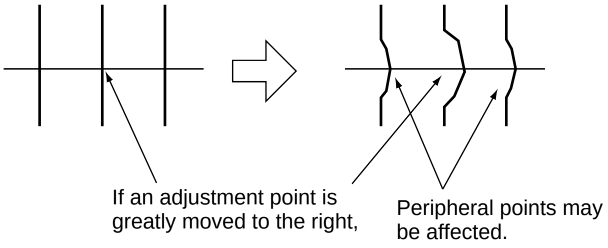
1st step

Adjust so that the vertical and horizontal lines forming a cross at the center of the screen become straight. Check also the screen size and the linearity of the horizontal and vertical lines.

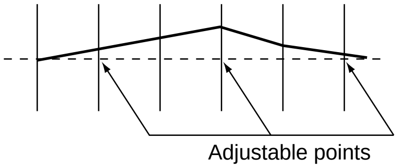


- See "3.3 Coarse adjustment of the green." Adjust GH STATIC, SKEW and SIZE, and GV STATIC, SKEW, PIN and SIZE to correct the screen location, tilt, screen information volume, and peripheral pin distortion.
- See "3.4 Fine-adjustment of the green." Fine-adjust the linearity of the vertical and horizontal lines forming a cross at the center of the screen.

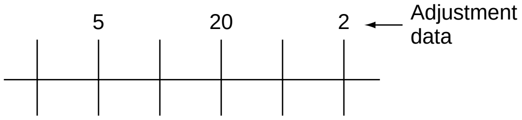
Note: In principle, only the selected point is changed in MANUAL CONVER. mode. However, as the adjusted data (amount of adjustment) increase, peripheral points may be affected. So be sure not to greatly change the adjustment data of one point, but change peripheral points at the same time. See the examples below.


If an adjustment point is greatly moved to the right,
Peripheral points may be affected.

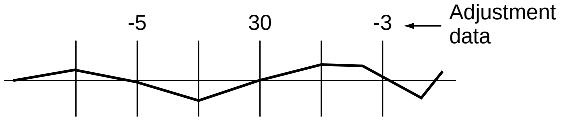
In a case of an error in convergence:



Good adjustment:

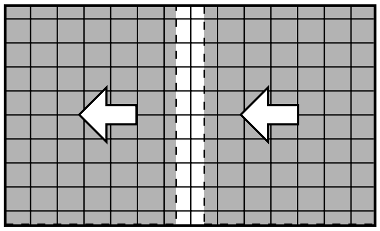


Bad adjustment:



2nd step

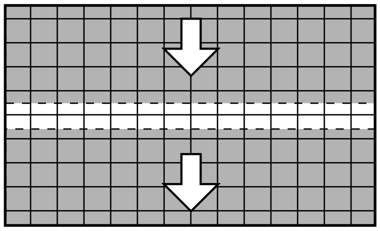
Adjust so that the vertical lines become straight, taking care to preserve proper screen information volume and the linearity. Adjust the right half of the screen first, then the left half. (See 3.4.)



Right half : Adjust from the edge toward the center.
Left half : Adjust from the center toward the edge.

3rd step

Adjust so that the horizontal lines become straight. Adjust the upper half of the screen first, then the lower half. (See 3.4.)



Upper half : Adjust from the edge toward the center.
Lower half : Adjust from the center toward the edge.

4th step

Repeat 2nd and 3rd steps to take total balance. Then the adjustment for the green is completed.
To return from the fine adjustment mode to the coarse adjustment mode, press the MENU key once, then the DOT key.

Note: When the MENU key is pressed to quit MANUAL CONVERGENCE mode, the display will be unstable for several seconds. This is because the adjustment data are being written to the EEPROMs, and is not a malfunction. Do not perform any operation (power on/off, or pressing keys on the remote control unit or on the main unit, etc.) during this period, because doing so may affect your adjustment data.

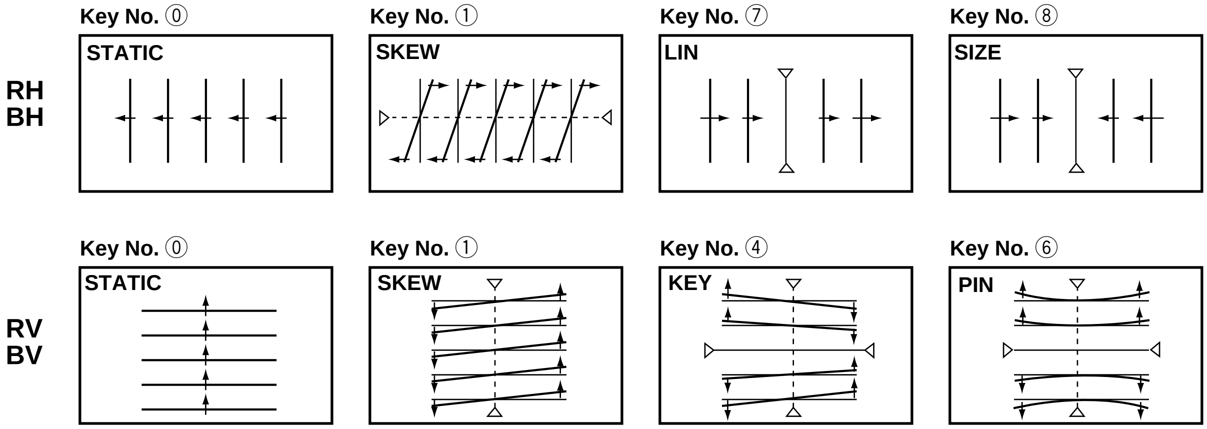
3.5 Coarse Adjustment of the Red

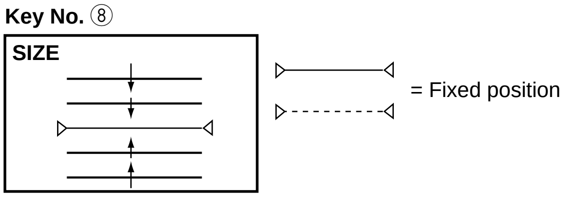
After the green adjustment is completed, quit MANUAL CONVERGENCE mode by pressing the MENU or MUTING key, then press the DOT key three times to enter OFFSET CONVER. MODE 3.
Select adjustment items for RH and RV, and roughly correct distortion to converge with the green. Adjustment is required for each screen mode

For adjustable items of the red and the blue, see the following table.

Numeric Key	RH	RV	BH	BV
0	STATIC	STATIC	STATIC	STATIC
1	SKEW	SKEW	SKEW	SKEW
4		KEY		KEY
6		PIN		PIN
7	LIN		LIN	
8	SIZE	SIZE	SIZE	SIZE

• Pattern for each adjustment item





Note 1: When the red CRT is replaced, or when the deflection yoke for the red is replaced, prior to adjustment, tune the center of the image to the center of the screen by turning the centering magnet.

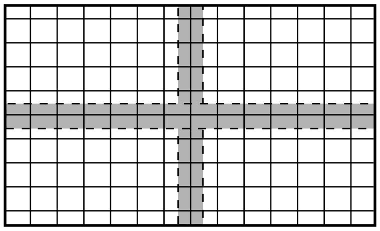
Note 2: When the CONVER. AMP Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.5 above.

3.6 Fine-adjustment of the Red

To fine-adjust the red, press the SET/ENTER key to enter MANUAL CONVERGENCE mode. Repeat the coarse adjustment described in "3.5 Coarse Adjustment of the Red" if necessary. Make adjustment for each SCREEN mode, and eliminate distortion to converge with the green.

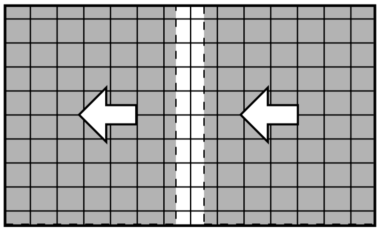
3.6.1

Press the SET/ENTER key to enter MANUAL CONVERGENCE mode, and make adjustment in the same manner as with the green. First, adjust the vertical and horizontal the red lines at the center of the screen so that they converge with the green center lines.



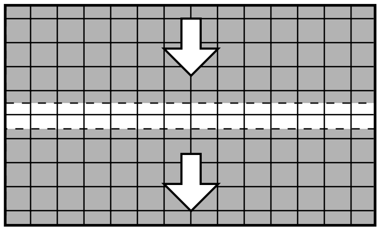
3.6.2

Adjust the red vertical lines so that they converge with the green vertical lines. Proceed to adjustment of the right half of the screen, then the left half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.3

Adjust the red horizontal lines so that they converge with the green horizontal lines. Proceed to adjustment of the upper half of the screen, then the lower half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.4

Repeat the adjustments described in 3.6.2 and 3.6.3 so that all the red vertical and horizontal lines converge with the green lines. (Completion of one screen mode)

3.6.5

Repeat procedures 3.6.2 through 3.6.4 for the other screen modes. (Completion of the red adjustment)

3.7 Coarse Adjustment and Fine Adjustment of the Blue

Make coarse and fine-adjustments of the blue in the same manner as with the red, described in 3.5 and 3.6.

3.8 Confirmation of Adjustment

After the green, red, and blue adjustments are finished, check convergence errors with the patterns for all three colors on the monitor.
Check the patterns in all SCREEN modes, and if any error in convergence is recognized, readjust convergence in MANUAL CONVER. mode.

Note: Be sure NOT to change the green pattern during readjustment.

IMPORTANT!

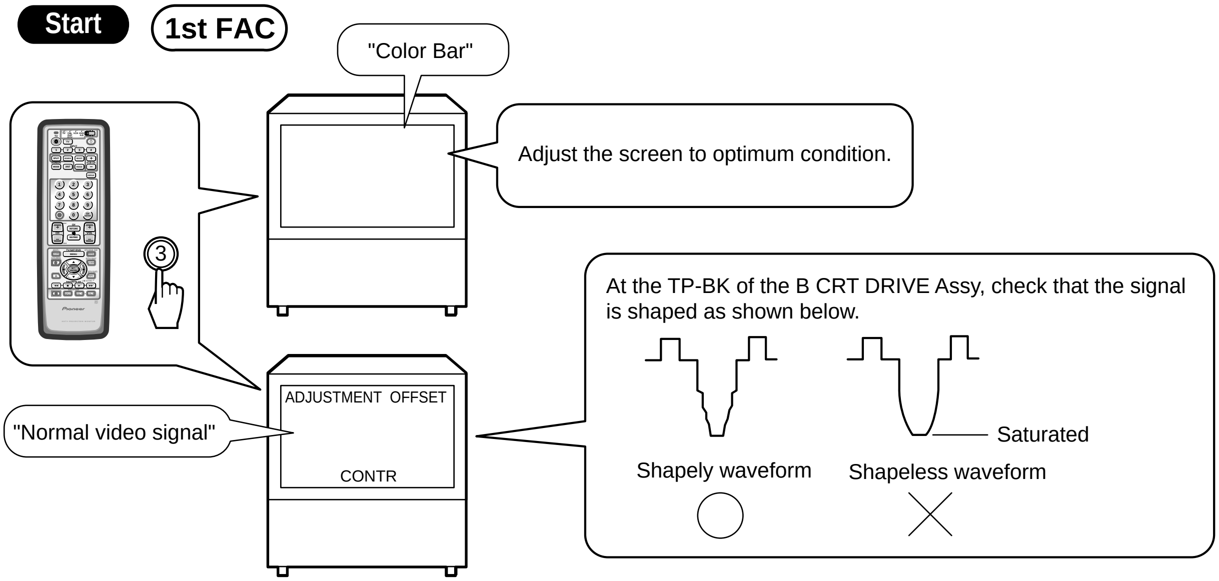
(1) When all the adjustments are completed, or when adjustment should be temporarily interrupted, adjustment data must be written to the EEPROM, in the following manner:
When all the adjustments are completed, or to interrupt adjustment, press the MENU key to quit Convergence Adjustment mode. The display will be unstable for several seconds, but this is because the data are being written to the EEPROM. Wait without doing anything until the display becomes stable, which means writing of data to the EEPROM is finished.
If the power of the TV is turned off (standby) during Convergence Adjustment mode (coarse and fine-adjustments), turn on the TV, enter FACTORY mode, and enter Convergence Adjustment mode by pressing the SET/ENTER key. Then press the MENU key. The data will be written to the EEPROM as described above.

(2) Do NOT turn off the main power during or after convergence adjustment.
If you do so, the adjusted data may be lost. If the data are lost, you must make all the adjustments again.

(3) When the CENTER POINT (test cross) or MULTI-POINT (user convergence) adjustments have been made by a user, and if the unit enters FACTORY Convergence Adjustment mode (with the DOT and SET/ENTER keys), the user's adjustment data will be all cleared and returned to the factory-preset values.
Be sure NOT to enter this Convergence Adjustment mode except when a repair related to convergence or a repair that requires convergence adjustment later, is needed.
If you inadvertently enter Convergence Adjustment mode, readjust the convergence.

7 White Balance Adjustment

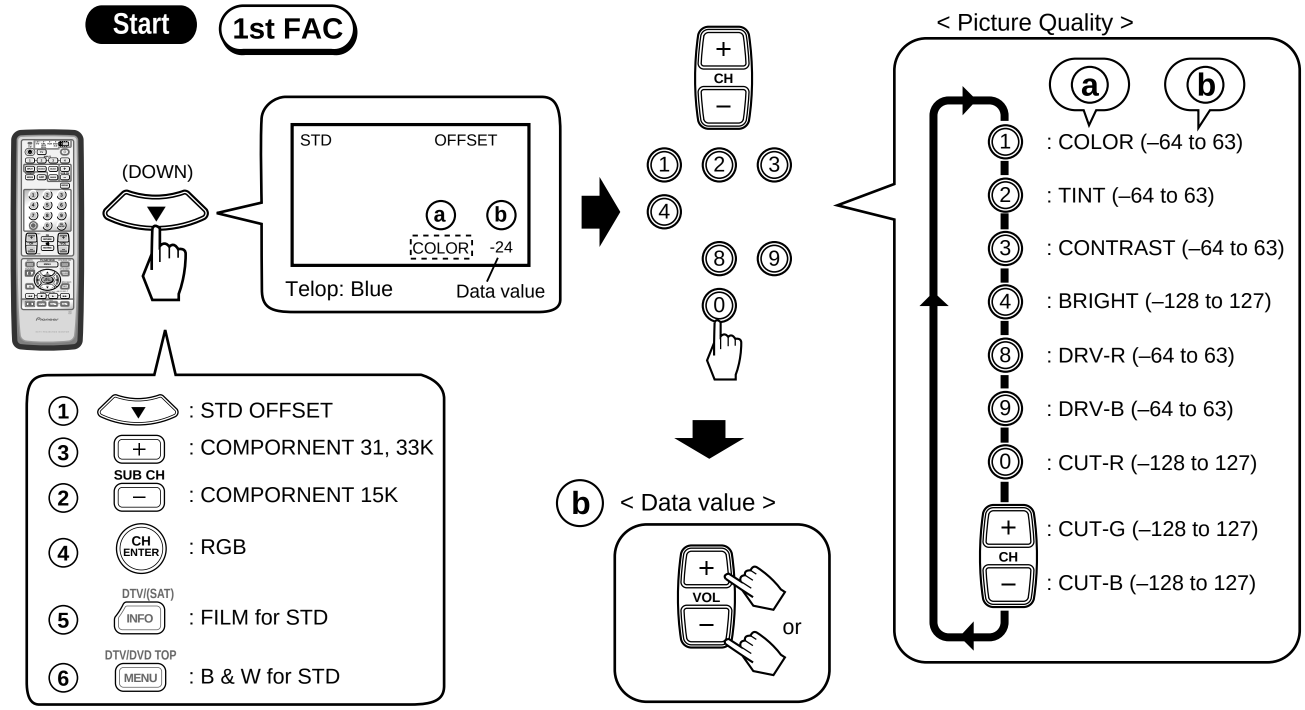
7-1 Contrast Adjustment


Start
1st FAC
"Color Bar"
Adjust the screen to optimum condition.
3
At the TP-BK of the B CRT DRIVE Assy, check that the signal is shaped as shown below.
ADJUSTMENT OFFSET
CONTR
"Normal video signal"
Saturated
Shapely waveform
Shapeless waveform
○
×

After the STD adjustment is complete, adjust the COMP 15K, COMP 31K, 33K RGB, COLOR TEMP FILM or STD and COLOR TEMP B&W for STD.

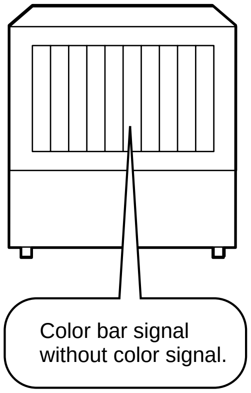
7 -2 White Balance Adjustment

This mode is to set the standard picture quality for a normal picture.


Start
1st FAC
(DOWN)
STD
OFFSET
a
b
COLOR
-24
Telop: Blue
Data value
CH
+
−
1 2 3
4
8 9
0
< Picture Quality >
a
b
b
< Data value >
VOL
+
−
or

1 : STD OFFSET
3 + : COMPORNENT 31, 33K
SUB CH
2 − : COMPORNENT 15K
4 CH ENTER : RGB
5 DTV/(SAT) INFO : FILM for STD
6 DTV/DVD TOP MENU : B & W for STD

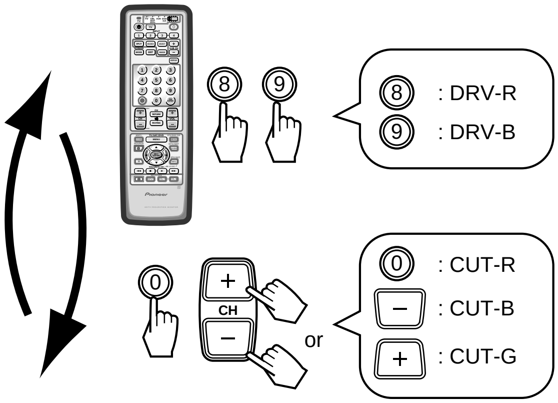
1 : COLOR (–64 to 63)
2 : TINT (–64 to 63)
3 : CONTRAST (–64 to 63)
4 : BRIGHT (–128 to 127)
8 : DRV-R (–64 to 63)
9 : DRV-B (–64 to 63)
0 : CUT-R (–128 to 127)
CH + : CUT-G (–128 to 127)
CH − : CUT-B (–128 to 127)



Color bar signal without color signal.

Adjust the DRV-R and DRV-B so that the bright part of the screen becomes white.

Adjust the CUT-R and CUT-B so that the dark part of the screen becomes gray.
Do not move the screen VR.
Cut-G can be adjusted with little movement in STD OFFSET mode.



8 : DRV-R
9 : DRV-B

0 : CUT-R
− : CUT-B
+ : CUT-G

Note :
Not all adjustments described above can be made for COLOR TEMP FILM for STD and COLOR TEMP B&W for STD.
Refer to the following adjustment procedure.

● Adjustment Procedure of White Balnce

OFFSET Data Table

	Without RGB Input							RGB Input			
COLOR TEMP Setting	STD	NEWS	LIVE	FILM STD	FILM REF THEATER	B&W STD	B&W REF THEATER	NEWS	LIVE	FILM	B&W
	I	J	K	L	M	V	X	β	γ	Y	Z
User Mode	REF THEATER			GAME			REF THEATER for RGB		GAME for RGB		
	E			F			δ		ε		
Input Signal	TV		COMPORNENT 15K		COMPORNENT 31K 33K		RGB				
	B		C		D		T				
	STD OFFSET										
	A										

Adjustments are required for A, C, D, T, L, and V in the table above. Data in other parts are fixed. (I="0")
Proceed with the adjustments in the following order:

Adjustment	Direct key		Picture quality data on the screen
(1) STD OFFSET	DOWN	A	Adjustment of all standard picture qualities
(2) COMPONENT 15K	SUB CH-	A+C	Adjustment of C
(3) COMPONENT 31, 33K	SUB CH+	A+D	Adjustment of D
(4) RGB	CH ENTER	A+T	Adjustment of T
(5) FILM for STD	INFO	A+L	Adjustment of L
(6) B&W for STD	DTV MENU	A+V	Adjustment of V

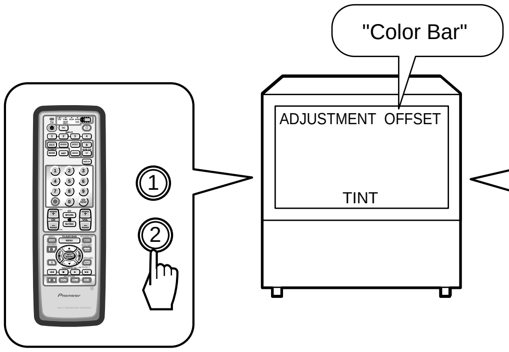
Make adjustment only for items described as ADJ in the following table.
Do NOT change other data.
Other data are adjusted in factory shipment by Fix data of the following table . (refer to page 204.)

- First, perform "(1) STD OFFSET", then perform adjustments (2), (3) and (4) so that the same picture quality (color temperature) as achieved in (1) is obtained.
- In adjustment (5), make the whole picture more reddish than in (1), and in adjustment (6), make it more reddish.

- When readjusting, once "(1) STD OFFSET" is adjusted, the data for other input signals (component, etc.) revert to the factory-preset values, in principle.
- After the adjustment of STD OFFSET is completed, check other picture quality modes by switching color temperatures and signals.
  It is OK if picture quality does not deviate greatly when input signal is changed (composite, component 15K, etc.).
  Furthermore, it is OK if color temperature changes when color remperarure is changed.
  With this model, five color temperature switching modes are provided. In FILM and B&W modes, a white part appears to be reddish in general because of their color temperature settings.

7 -3 Color/Tint Adjustment

Start **1st FAC**



Adjust ① COLOR and ② TINT so that the color-bar is set in the proper color saturation and the tint.

Do not adjust the RGB, COLOR TEMP FILM and B&W.

OFFSET DATA (VIDEO)

ADJ :Adjustment item

The numerical value is shipping a set value in the factory.

DIRECT KEY		
OFFSET MODE		Adjustment Value
KEY	ADJ NAME	
DOWN		
STD OFFSET A		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BRIGHT	ADJ
5	SHARPNESS	0
6	DETAIL	–50
7	S. V. M	0
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ
SUB CH –		
COMPONENT 15K C		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BRIGHT	0
5	SHARPNESS	0
6	DETAIL	0
7	S. V. M	0
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ
SUB CH+		
COMPONENT 31, 33K D		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BRIGHT	0
5	SHARPNESS	–20
6	DETAIL	92
7	S. V. M	0
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ
RED		
TV OFFSET B		
1	COLOR	–10
2	TINT	0
3	CONTRAST	0
4	BRIGHT	0
5	SHARPNESS	15

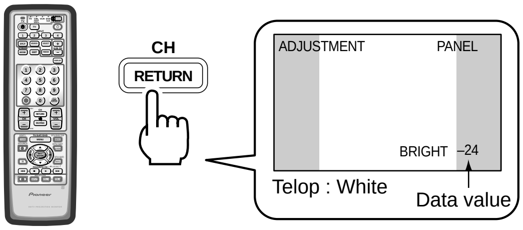
DIRECT KEY		
OFFSET MODE		Adjustment Value
KEY	ADJ NAME	
BLUE (cyclically)		
REF THEATER OFFSET E		
1	COLOR	–13
2	TINT	–15
3	CONTRAST	–22
4	BRIGHT	–5
5	SHARPNESS	–20
6	DETAIL	30
8	R DRV	–3
9	B DRV	–2
0	R CUT	–2
CH+	G CUT	–2
CH–	B CUT	–2
GAME OFFSET F		
1	COLOR	0
2	TINT	0
3	CONTRAST	–39
4	BRIGHT	0
5	SHARPNESS	–35
6	DETAIL	0
8	R DRV	–6
9	B DRV	10
0	R CUT	1
CH+	G CUT	3
CH–	B CUT	2
REF THEATER OFFSET for RGB δ		
3	CONTRAST	–15
4	BRIGHT	0
8	R DRV	–4
9	B DRV	–2
0	R CUT	1
CH+	G CUT	0
CH–	B CUT	0
GAME OFFSET for RGB ε		
3	CONTRAST	–34
4	BRIGHT	0
8	R DRV	–7
9	B DRV	14
0	R CUT	12
CH+	G CUT	13
CH–	B CUT	6
CH ENTER		
RGB OFFSET T		
3	CONTRAST	ADJ
4	BRIGHT	ADJ
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ
INFO		
COLOR TEMP FILM for STD L		
3	CONTRAST	ADJ
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ
DTV MENU		
COLOR TEMP B&W for STD V		
3	CONTRAST	ADJ
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH–	B CUT	ADJ

DIRECT KEY		
OFFSET MODE		Adjustment Value
KEY	ADJ NAME	
GREEN (cyclically)		
COLOR TEMP NEWS J		
3	CONTRAST	–6
8	R DRV	–1
9	B DRV	16
0	R CUT	3
CH+	G CUT	3
CH–	B CUT	1
COLOR TEMP LIVE K		
3	CONTRAST	–1
8	R DRV	–5
9	B DRV	7
0	R CUT	2
CH+	G CUT	3
CH–	B CUT	1
COLOR TEMP FILM for REF THEATER M		
3	CONTRAST	0
8	R DRV	12
9	B DRV	–14
0	R CUT	–2
CH+	G CUT	1
CH–	B CUT	–1
COLOR TEMP B&W for REF THEATER X		
3	CONTRAST	–1
8	R DRV	16
9	B DRV	–22
0	R CUT	–1
CH+	G CUT	2
CH–	B CUT	0
GREEN (cyclically)		
COLOR TEMP NEWS for RGB β		
3	CONTRAST	–6
4	BRIGHT	0
8	R DRV	–1
9	B DRV	16
0	R CUT	3
CH+	G CUT	3
CH–	B CUT	1
COLOR TEMP LIVE for RGB γ		
3	CONTRAST	–1
4	BRIGHT	0
8	R DRV	–5
9	B DRV	7
0	R CUT	2
CH+	G CUT	3
CH–	B CUT	1
COLOR TEMP FILM for RGB Y		
3	CONTRAST	–1
4	BRIGHT	0
8	R DRV	11
9	B DRV	–16
0	R CUT	–1
CH+	G CUT	3
]CH–	B CUT	3
COLOR TEMP B&W for RGB Z		
3	CONTRAST	–2
4	BRIGHT	0
8	R DRV	15
9	B DRV	–23
0	R CUT	–1
CH+	G CUT	3
CH–	B CUT	3

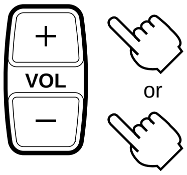
8 Panel Adjustment

Start **1st FAC**

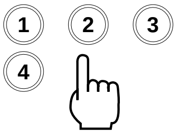
- Mode for adjusting the brightness, contrast LEFT and RIGHT of the gray part (panel) of the 4:3 normal screen.


CH
RETURN
ADJUSTMENT
PANEL
BRIGHT –24
Telop : White
Data value

<Data value section>



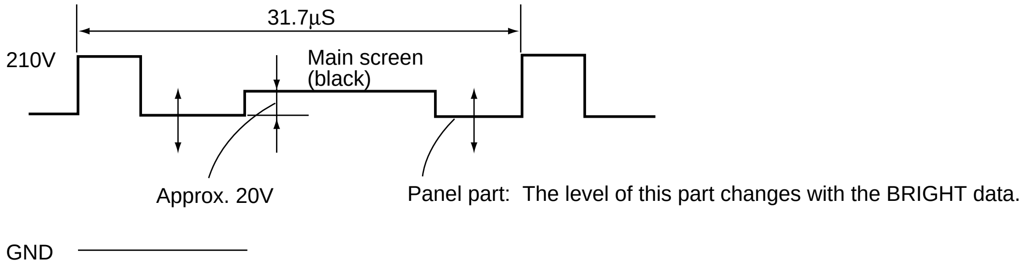
<Adjustment item section>



1 : BRIGHT (–64 to 63)
2 : CONTRAST (–64 to 63)
3 : LEFT (–128 to 127)
4 : RIGHT (–128 to 127)

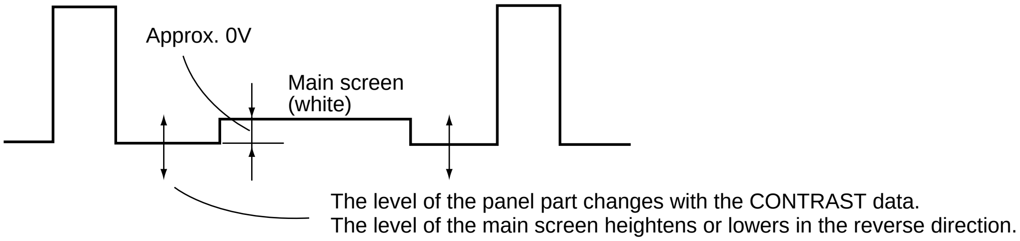
Procedures

① Send the black-burst signal to the INPUT 1 connector.
Enter Adjustment mode by following the procedures described above.
② With BRIGHT, adjust the gray part (panel) of the screen.
By observing TP5151 of the GREEN CRT DRIVE assembly with the oscilloscope, , adjust the brightness level which is low by 20V from Black level of the main screen.

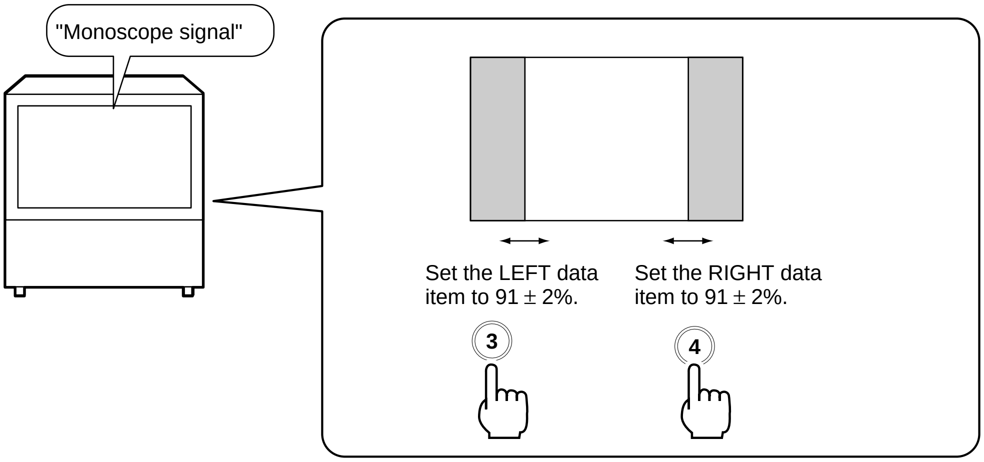

31.7µS
210V
Main screen
(black)
Approx. 20V
Panel part: The level of this part changes with the BRIGHT data.
GND

③ Switch the input signal to a 100%-white signal.
Adjust the panel part and the main screen with CONTRAST.
Observe the same site as described in Step ② above, and adjust the amplitude of the luminosity.

Adjust so that the level of the luminosity of the panel and that of the main screen become the same.


Approx. 0V
Main screen
(white)
The level of the panel part changes with the CONTRAST data.
The level of the main screen heightens or lowers in the reverse direction.

● Size Adjustment of the Panel Part of the 4:3 Normal Screen


"Monoscope signal"
③
④

Set the LEFT data item to 91 ± 2%.

Set the RIGHT data item to 91 ± 2%.

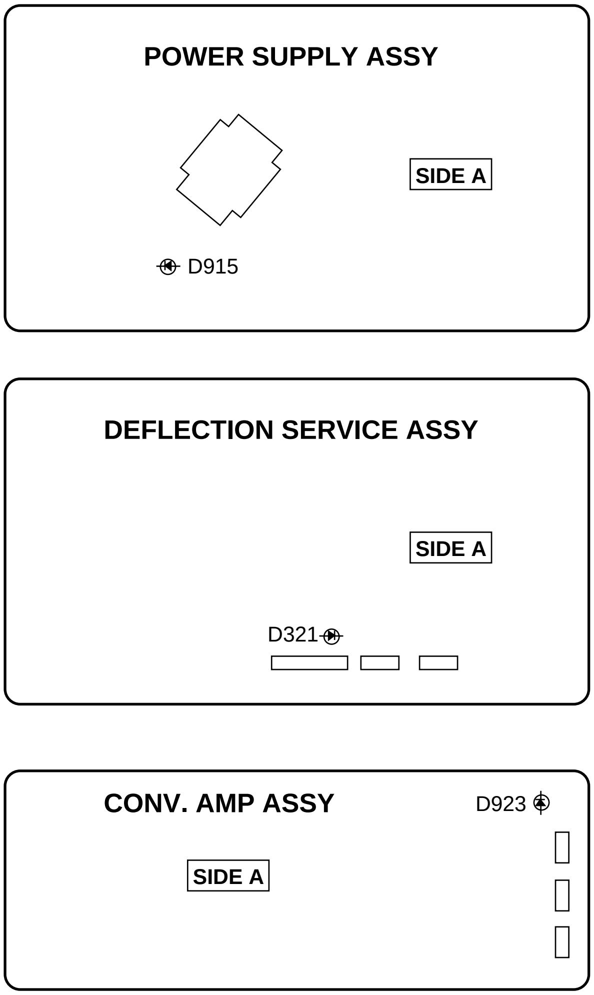
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DIAGNOSIS METHOD

Various protection circuits are provided for this unit. When these protection circuits are activated, the power of the unit is shut down (P.D.: Power Down).
The defective parts can be easily diagnosed by observing the LEDs inside the following assemblies.

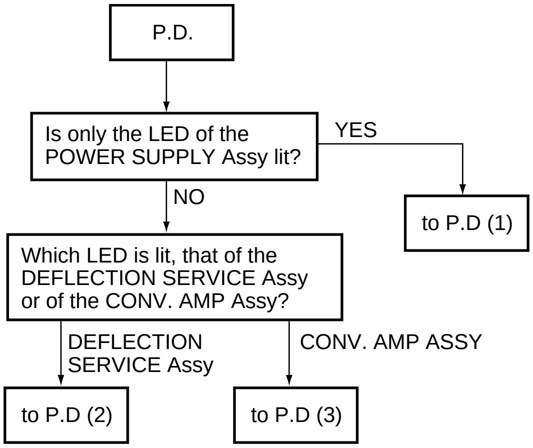
1. POWER SUPPLY Assy
   Common to all models : D915 in the AWV1912
2. DEFLECTION SERVICE Assy
   Common to all models : D321 in the AWV1913
   For service assembly : D321 in the AWV1921
3. CONV. AMP Assy
   Common to all models : D923 in the AWZ6649


POWER SUPPLY ASSY
SIDE A
D915
DEFLECTION SERVICE ASSY
SIDE A
D321
CONV. AMP ASSY
D923
SIDE A

LED points

How to diagnose a failure

The D915 LED of the POWER SUPPLY Assy always lights up when the power is turned off because of the protection circuits (P.D.).


P.D.
Is only the LED of the POWER SUPPLY Assy lit?
YES
to P.D (1)
NO
Which LED is lit, that of the DEFLECTION SERVICE Assy or of the CONV. AMP Assy?
DEFLECTION SERVICE Assy
CONV. AMP ASSY
to P.D (2)
to P.D (3)

1. P.D. (1)

Failure in the POWER SUPPLY Assy and the AUDIO Assy.
There are four main possibilities:
1. Abnormality in the regulator of the heater
2. Blown fuse(s) in secondary
3. Abnormality in RELAY (RY102)
4. Abnormality in AUDIO OUTPUT

Status	Causes	Check Items	Probable Defective Parts
D223 ANODE Hi	Abnormality in the regulator for the heater	The voltage of HT- at TP205 is NOT approx. 19 V, and that of the HT+ at TP204 is NOT approx. 26 V.	Q201, R202, D210, D209
D207 ANODE Hi	Blown fuse(s)	The voltage HT+ (approx. 26 V) at TP204 is NOT supplied.	CONV. AMP Assy and DEFLECTION SERVICE Assy
		The voltage (approx. 35 V) at TP203 is NOT supplied.	AUDIO Assy
		The voltage (approx. 11 V) at TP209 is NOT supplied.	VIDEO Assy
D911 ANODE Hi	Abnormality in RELAY	The RELAY signal is NOT high (ON) at TP904.	SIGNAL Assy
		P.D. even if the RELAY signal is high (ON) at TP904.	Q904, Q905 RY102, R102
D203 ANODE Hi	Abnormality in AUDIO OUTPUT	The SP line (CN5611) is disconnected.	Connect the SP line.
		The voltage at the negative electrode of the C5616 and C5617 is 5.2 V or more.	C5616, C5617 (VIDEO Assy)

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.) The LEDs are lit by the HOLD circuit.

In a case when the power cannot be on with no LED lit, check the following:
1. Check if the FU101 fuse in the POWER SUPPLY Assy is blown.
2. Disconnect and check connector E1 (CN201) to see whether STB 5 V is supplied.
   If STB 5 V is supplied, replace the SIGNAL Assy. If STB 5 V is NOT supplied, replace the POWER SUPPLY Assy.
3. Disconnect and check connector E1 (CN201) to see whether AC CLK is supplied.
   If AC CLK is supplied, replace the SIGNAL Assy. If AC CLK is NOT supplied, replace the POWER SUPPLY Assy.

2. P.D. (2)

Failure in the DEFLECTION SERVICE Assy.
There are four main possibilities:
1. H. deflection overload detection (1)
2. H. deflection stopping detection
3. H. deflection overload detection (2)
4. X-ray protection

Status	Causes	Check Items	Probable Defective Parts
D312 ANODE Hi	Overload detection 1		Q309, Q324 (short-circuited between C and E)
D309 ANODE Hi	Stopping H. deflection	Is the connector of the deflection yoke plugged in?	Plug in the connector.
		No H. OSC signal at TP304 (F=31.5 kHz, Duty 50%)	IC301, Q309
		No DH. BLK signal at TP305	Q309
D615 ANODE Hi	Overload detection 2		Q612, Q613 (short-circuited between C and E)
		About one minute after the power is turned off, disconnect the K4 connector and turn on the power. Then the power is not turned off (no P.D.).	IC5101, IC5151 and IC5201 in the CRT DRIVE Assy
D621 ANODE Hi	X-ray protection	No change in the ABL voltage (no DC change) at Pin 12 of the CN305 when a 100%-white signal is repeatedly connected and disconnected	D2224 (short-circuited)of the SUB VIDEO Assy
			T601 (FBT) rare short

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.) The LEDs are lit by the HOLD circuit.

Note that the power may be shut down when the voltages 130 V, 25 V, and 12 V from the POWER SUPPLY Assy are not supplied because the DEFLECTION SERVICE Assy is powered by the POWER SUPPLY Assy.

When overload detection mechanisms 1 and 2 are activated, the 130 V line is short-circuited. If the power switch is set to ON again in this condition, there may be a case where the power cannot be turned on, with just a whining sound, and where only the D915 LED in the POWER SUPPLY Assy is lit. If this happens, first replace only the DEFLECTION SERVICE Assy, disconnect the AC cord from the AC outlet or turn the main power switch OFF, and wait for five minutes. Then, turn on the power again. If the condition is ameliorated, only the DEFLECTION SERVICE Assy is defective. If the same symptom occurs, replace the POWER SUPPLY Assy. In the latter case, the DEFLECTION SERVICE Assy may not be defective.

Be sure to check the fuses in the POWER SUPPLY Assy because one or more may be blown as a result of short-circuiting of the load circuit of the DEFLECTION SERVICE Assy.

3. P.D. (3)

Failure in the CONV. AMP Assy
The following reason may be suspected:
1. V. deflection stopping detection

Status	Causes	Check Items	Probable Defective Parts
D923, P.D. LED, lit	V. deflection stopping	Check that the connectors (G1, G2, G3) of the convergence yoke are plugged in.	Plug in the connectors.
		Check that the connectors (G4, G5) of the DIGITAL CONV. Assy are plugged in.	Plug in the connectors.
		Check that the connector (H4) from the POWER SUPPLY Assy is plugged in to the DIGITAL CONV. Assy.	Plug in the connectors.
		Check that the connector (H3) from the DEFLECTION SERVICE Assy is plugged in to the DIGITAL CONV. Assy.	Plug in the connectors.
		Abnormality in V. BLK 2 waveform that is output from Pin 6 of the CN1653 in the DIGITAL CONV. Assy (too long a high period with the DC voltage on)	IC4802 in the SUB VIDEO Assy
		Abnormality in V. BLK 0 waveform that is output from Pin 2 of the CN1652 in the DIGITAL CONV. Assy (too long a high period with the DC voltage on)	IC301 in the DEFLECTION SERVICE Assy
		No waveform is output from Pin 1 of the CN902.	Q913, Q914

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.) The LEDs are lit by the HOLD circuit.

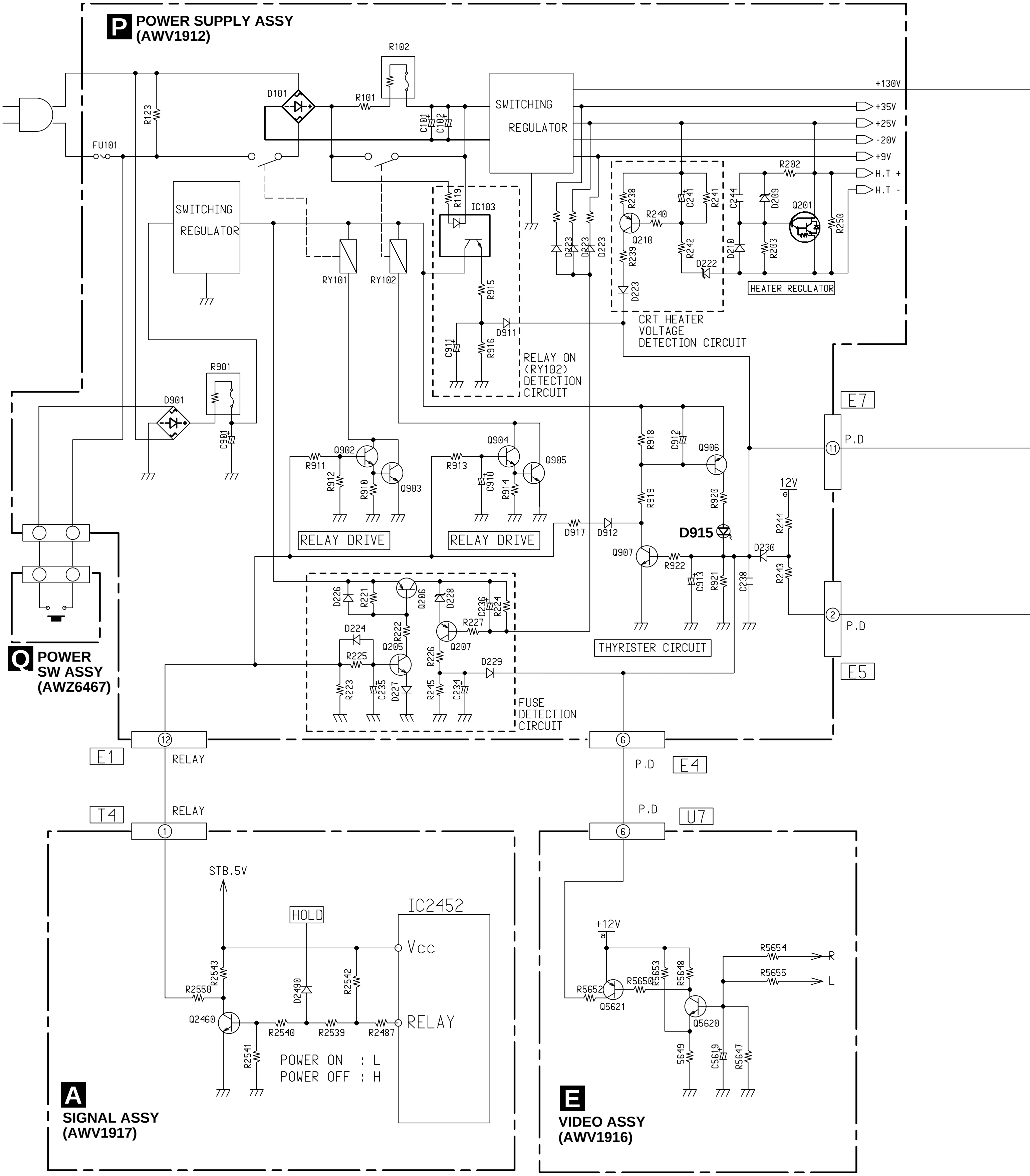
Be sure to check the fuses in the POWER SUPPLY Assy because one or more may be blown as a result of short-circuiting of the load circuit of the CONV. AMP Assy. See the table below.

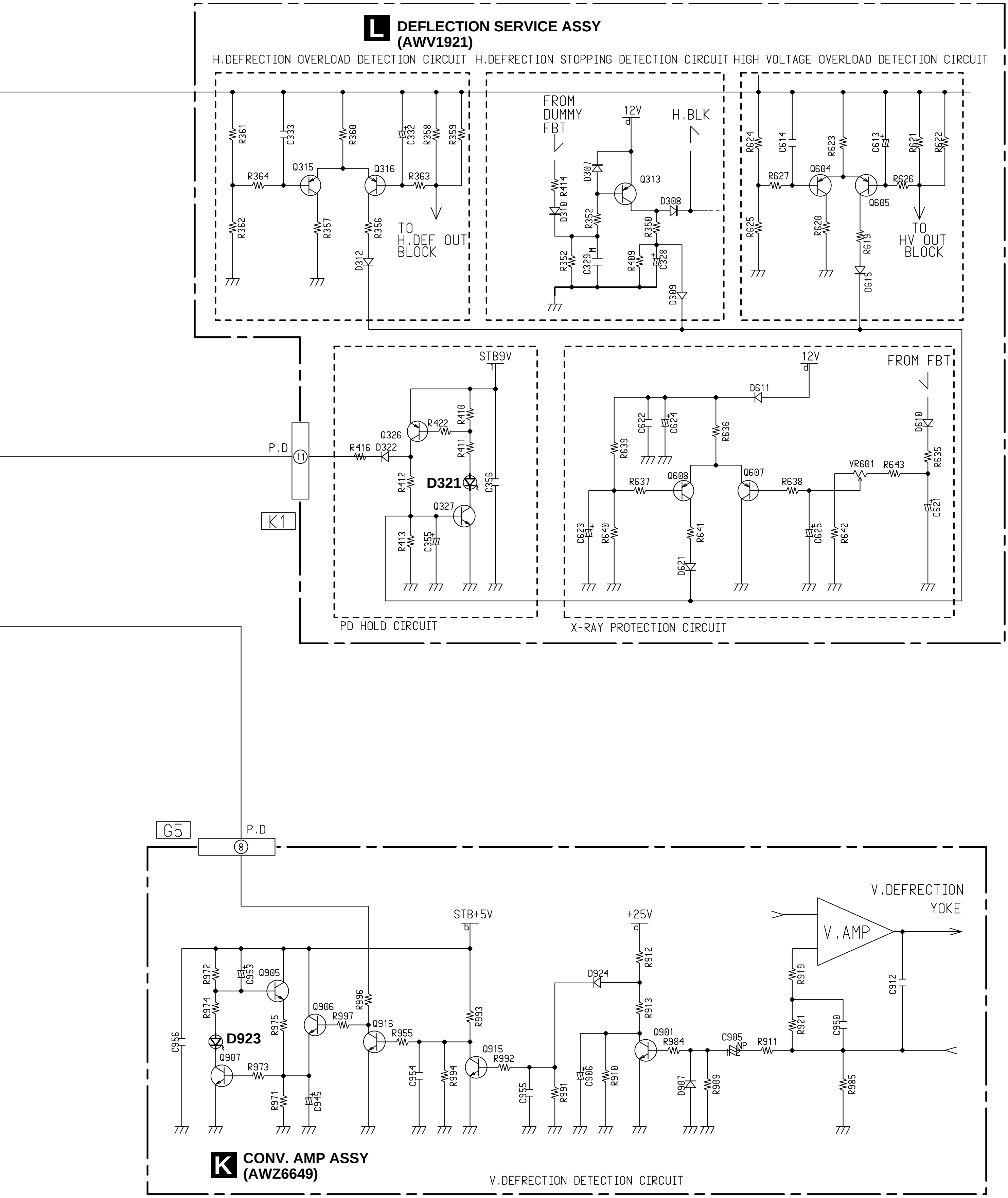
Note that the power may be shut down when the voltages 25 V, -20 V, +5 V and -5 V from the POWER SUPPLY Assy are not supplied because the CONV. AMP and DIGITAL CONVER. Assys are powered by the POWER SUPPLY Assy.

If the FU202 and FU204 fuses are blown, see the following table:

Causes	Check Items	Probable Defective Parts
Too high loading on the CONVER. AMP	Check that waveform signals are output from Pin 3 and Pin 5 of the CN901, CN902 and CN903, and that the DC element is not added to the signals.	IC901, IC903
CONVER. MUTING not activated	Check that the electric potential of Pin 3 and Pin 4 of IC901 and IC903 are at the same level when the power is turned on.	Q904, Q918

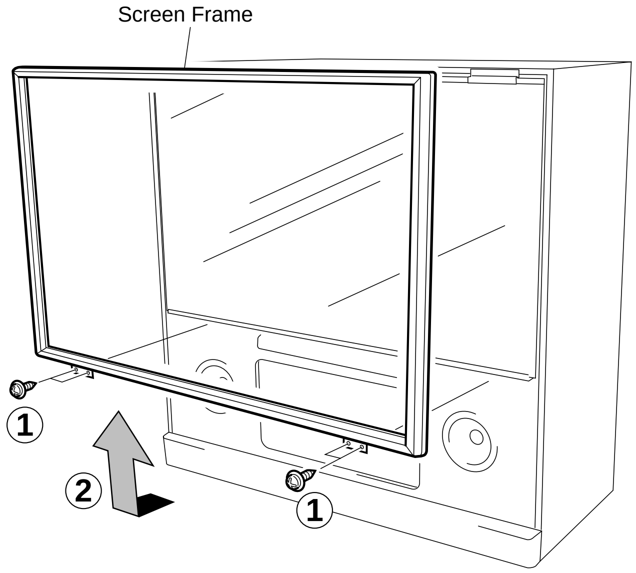
4. Block Diagram of the Protection Circuit

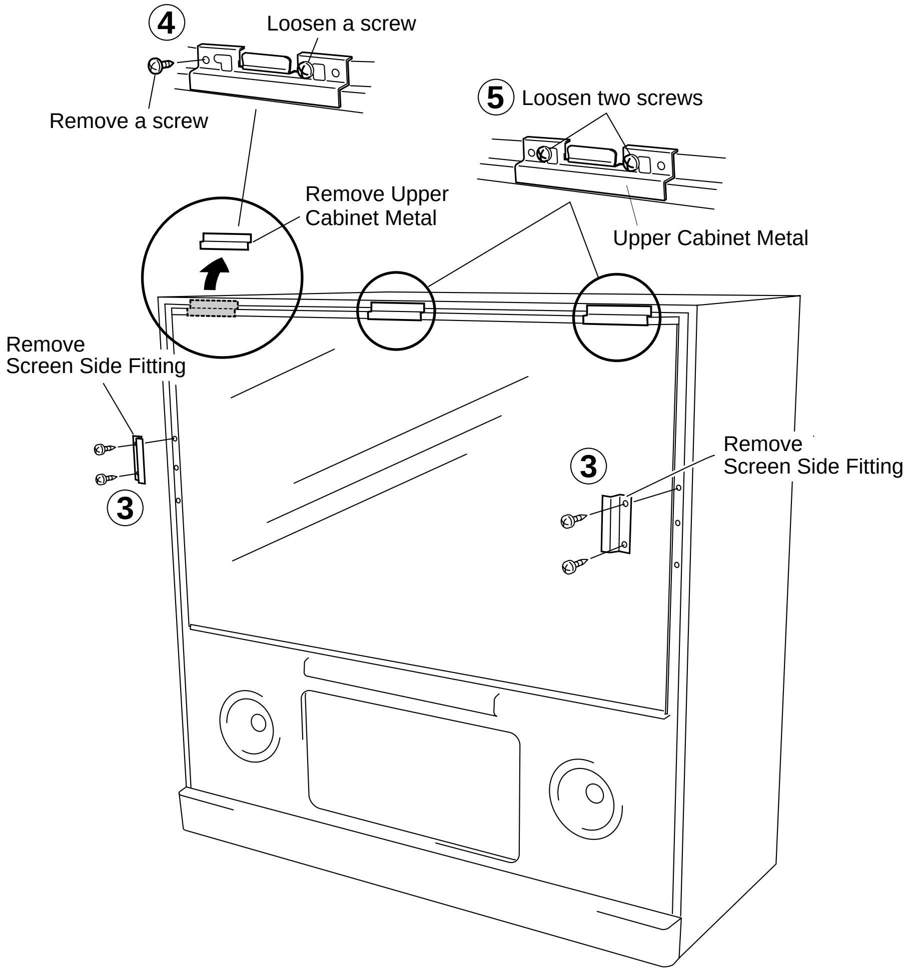

P
POWER SUPPLY ASSY
(AWV1912)
R102
D101
R101
R123
FU101
C101
C102
SWITCHING
REGULATOR
+130V
+35V
+25V
-20V
+9V
H.T +
H.T -
R202
R119
IC103
SWITCHING
REGULATOR
RY101
RY102
R915
D911
C911
R916
RELAY ON
(RY102)
DETECTION
CIRCUIT
D223
D223
D223
R238
C241
R241
R240
Q210
R239
R242
D222
D223
C244
D209
Q201
R250
D210
R203
HEATER REGULATOR
CRT HEATER
VOLTAGE
DETECTION CIRCUIT
R901
D901
C901
Q902
R911
R912
R910
Q903
Q904
R913
C910
R914
Q905
RELAY DRIVE
RELAY DRIVE
R918
C912
Q906
R919
R920
D917
D912
D915
Q907
R922
C913
R921
C238
12V
R244
D230
R243
E7
P.D
11
2
P.D
E5
D226
R221
Q206
D228
C236
R224
R227
Q207
D224
R222
R225
Q205
R226
D229
R223
C235
D227
R245
C234
FUSE
DETECTION
CIRCUIT
THYRISTER CIRCUIT
Q
POWER
SW ASSY
(AWZ6467)
12
E1
RELAY
6
P.D
E4
T4
RELAY
1
P.D
U7
6
STB.5V
HOLD
IC2452
Vcc
R2543
R2550
D2490
R2542
Q2460
R2540
R2539
R2487
RELAY
R2541
POWER ON : L
POWER OFF : H
A
SIGNAL ASSY
(AWV1917)
+12V
R5654
R
R5655
L
R5653
R5648
R5652
R5650
Q5621
Q5620
5649
C5619
R5647
E
VIDEO ASSY
(AWV1916)

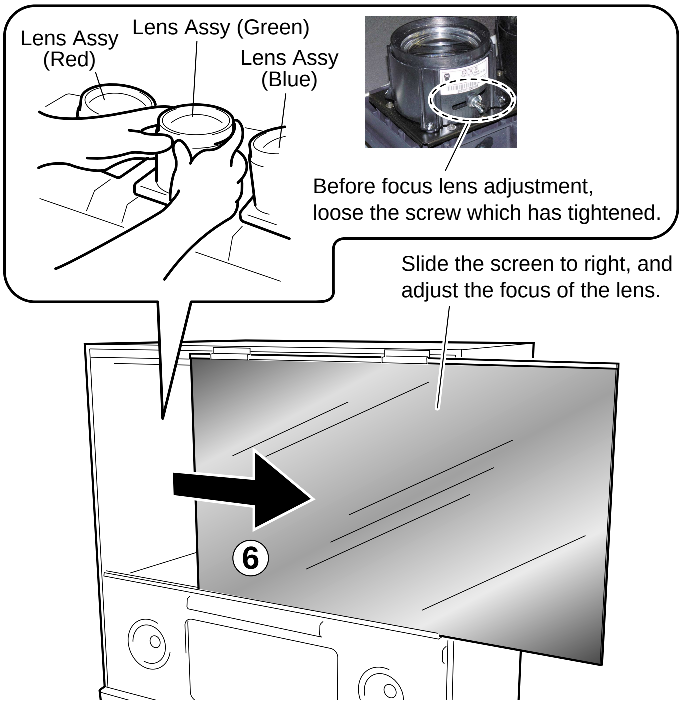

L
DEFLECTION SERVICE ASSY
(AWV1921)
H.DEFRECTION OVERLOAD DETECTION CIRCUIT
H.DEFRECTION STOPPING DETECTION CIRCUIT
HIGH VOLTAGE OVERLOAD DETECTION CIRCUIT
R361
C333
R360
C332
R358
R359
R364
Q315
Q316
R363
R362
R357
R356
D312
TO
H.DEF OUT
BLOCK
FROM
DUMMY
FBT
12V
H.BLK
D307
Q313
R414
D308
D310
R352
R350
R352
C329
R409
C328
D309
R624
C614
R623
C613
R621
R622
R627
Q604
R626
Q605
R625
R620
R619
TO
HV OUT
BLOCK
D615
STB9V
R410
Q326
R422
P.D
R416
D322
R411
D321
C356
R412
Q327
R413
C355
K1
PD HOLD CIRCUIT
12V
FROM FBT
D611
C622
C624
R636
D610
R639
R635
Q608
Q607
VR601
R643
R637
R638
C623
R640
R641
C625
R642
C621
D621
X-RAY PROTECTION CIRCUIT
G5
P.D
STB+5V
+25V
V.DEFRECTION
YOKE
V.AMP
R972
C953
Q905
R912
D924
R919
C912
R974
R996
R913
Q906
R997
R975
R993
R921
C950
D923
Q916
C956
R955
Q901
C905
NP
R984
R911
Q907
Q915
R973
R992
C954
R994
C906
R910
D907
R909
R985
R971
C945
C955
R991
K
CONV. AMP ASSY
(AWZ6649)
V.DEFRECTION DETECTION CIRCUIT

7.1.2 DISASSEMBLY

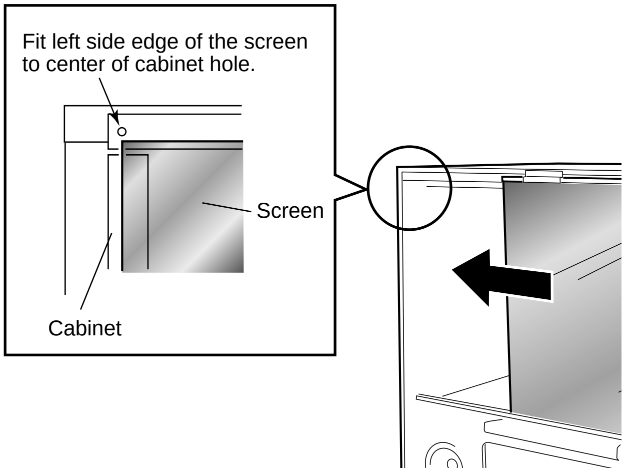
■ How to remove the screen (for adjusting Lens assemblies)


Screen Frame
①
②
①


④
Loosen a screw
Remove a screw
⑤ Loosen two screws
Remove Upper
Cabinet Metal
Upper Cabinet Metal
Remove
Screen Side Fitting
③
③
Remove
Screen Side Fitting

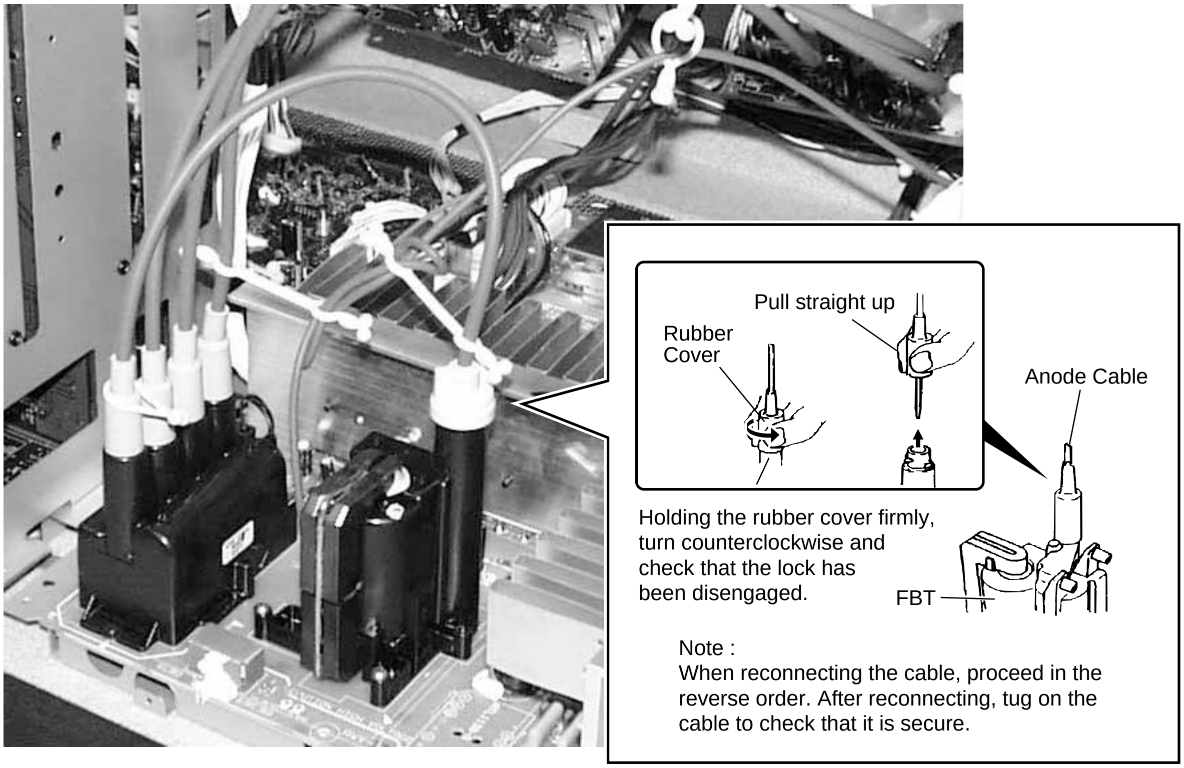

Lens Assy (Red)
Lens Assy (Green)
Lens Assy (Blue)
Before focus lens adjustment, loose the screw which has tightened.
Slide the screen to right, and adjust the focus of the lens.
6

Notes:
To assemble the screen, perform the above procedures in reverse order.
After assembling it, verify that the right and left sides of the screen are positioned as shown in the figure.


Fit left side edge of the screen to center of cabinet hole.
Screen
Cabinet

■ Disconnect the Anode Cable

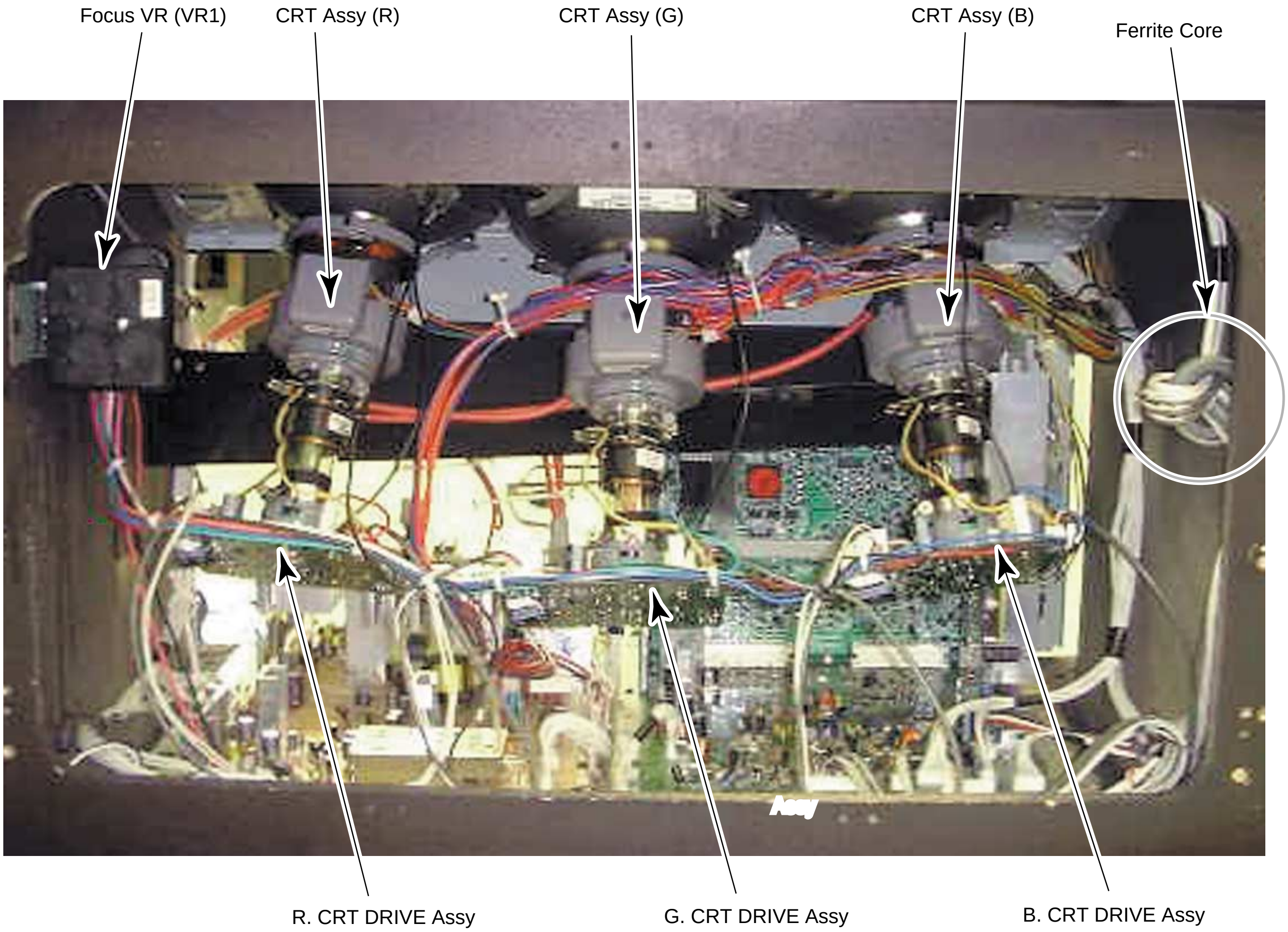
WARNING:
Before disconnect the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.

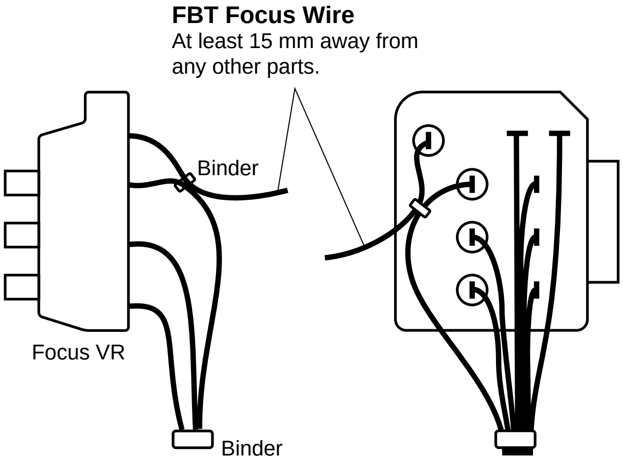

Pull straight up
Rubber Cover
Anode Cable
Holding the rubber cover firmly, turn counterclockwise and check that the lock has been disengaged.
FBT

Note :
When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

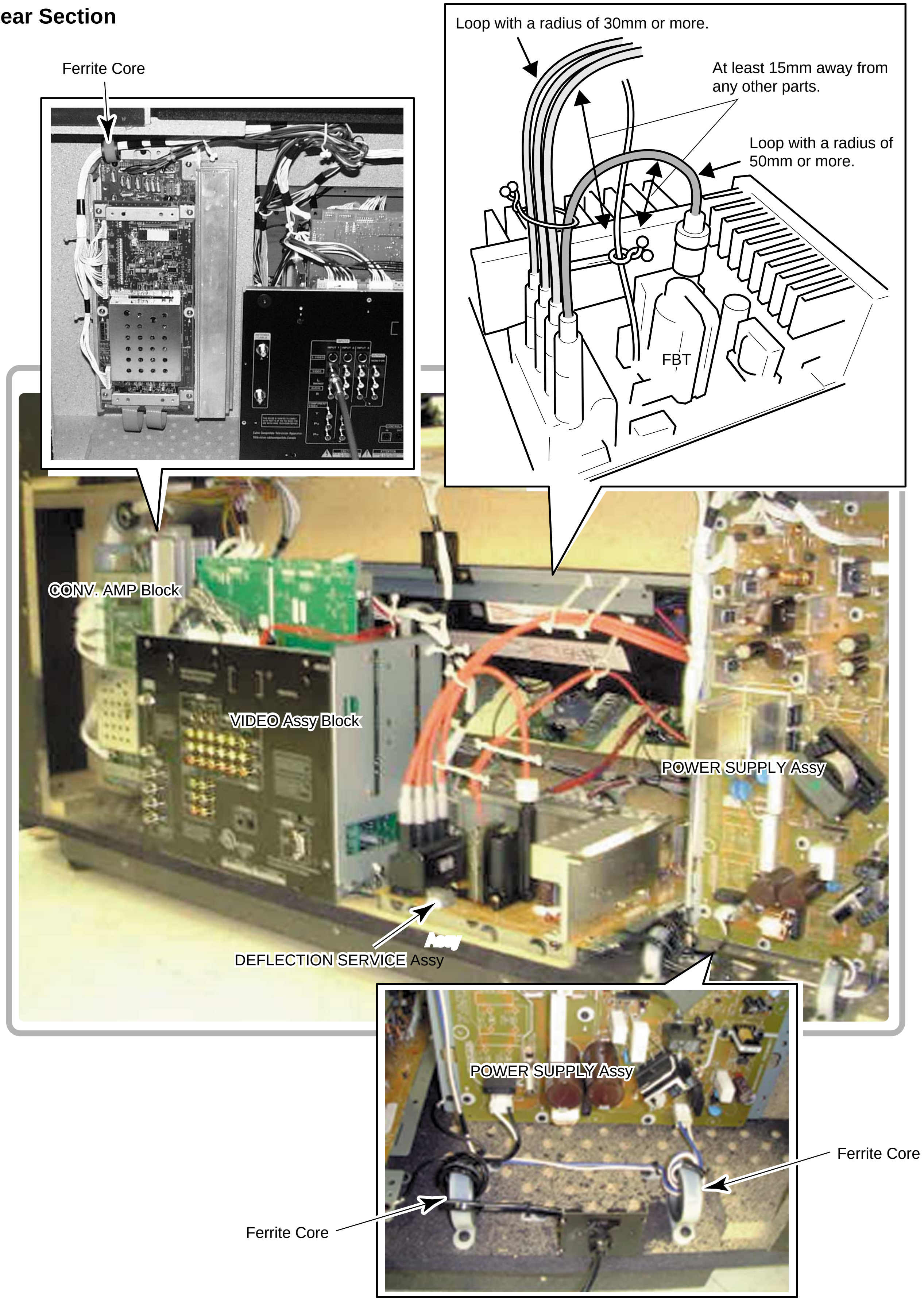
7.1.3 WIRING DIAGRAM

■ Front Section


Focus VR (VR1)
CRT Assy (R)
CRT Assy (G)
CRT Assy (B)
Ferrite Core
Assy
R. CRT DRIVE Assy
G. CRT DRIVE Assy
B. CRT DRIVE Assy


FBT Focus Wire
At least 15 mm away from
any other parts.
Binder
Focus VR
Binder

■ Rear Section


Ferrite Core
Loop with a radius of 30mm or more.
At least 15mm away from any other parts.
Loop with a radius of 50mm or more.
FBT
CONV. AMP Block
VIDEO Assy Block
POWER SUPPLY Assy
DEFLECTION SERVICE Assy
POWER SUPPLY Assy
Ferrite Core
Ferrite Core

7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

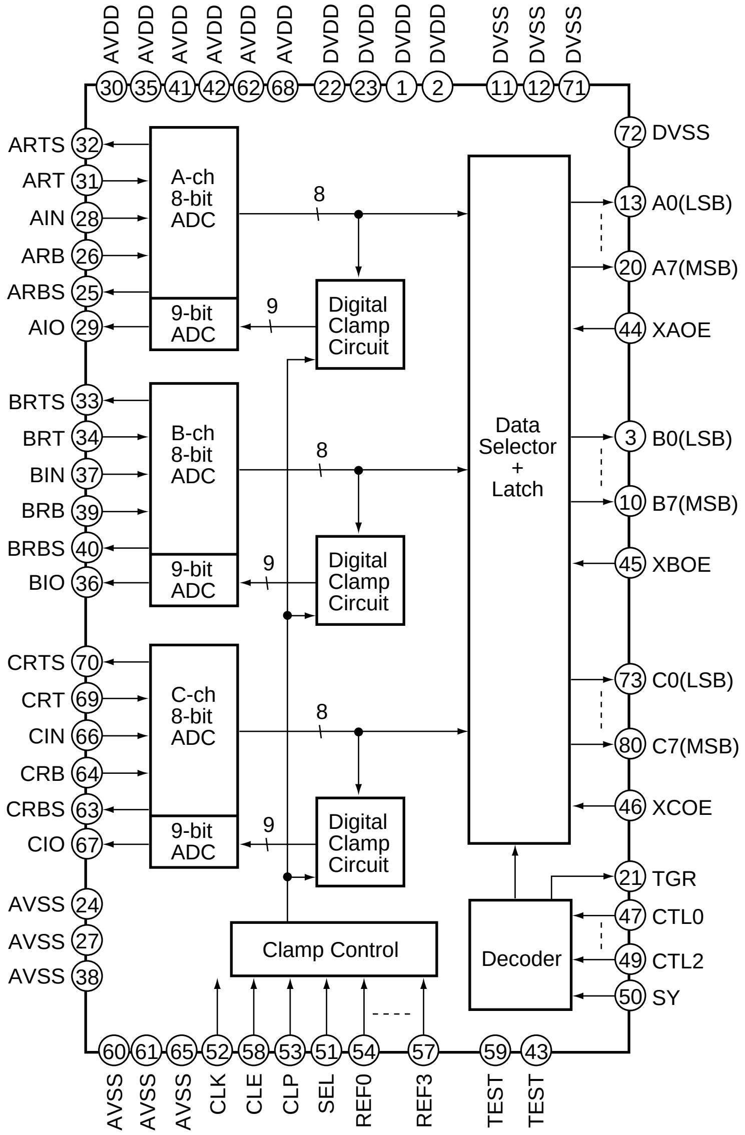
● List of IC

CXD2303AQ, SDA9280, CXA3106Q, PE5066A, PE5067A, MS82V16520-8GA, HD64F3067RF20, 24LC128(I)P, 24LC08B(I)P, CM0006C1F, 24LC32A(I)P, CXA2094Q, CM0010AF, TK15420M, MC33167TV

■ CXD2303AQ (SUB VIDEO SERVICE ASSY : IC3203)

• Video A/D Converter

● Block Diagram



AVDD 30
AVDD 35
AVDD 41
AVDD 42
AVDD 62
AVDD 68
DVDD 22
DVDD 23
DVDD 1
DVDD 2
DVSS 11
DVSS 12
DVSS 71
72 DVSS
ARTS 32
ART 31
AIN 28
ARB 26
ARBS 25
AIO 29
A-ch 8-bit ADC
9-bit ADC
8
9
Digital Clamp Circuit
13 A0(LSB)
20 A7(MSB)
44 XAOE
BRTS 33
BRT 34
BIN 37
BRB 39
BRBS 40
BIO 36
B-ch 8-bit ADC
9-bit ADC
8
9
Digital Clamp Circuit
Data Selector + Latch
3 B0(LSB)
10 B7(MSB)
45 XBOE
CRTS 70
CRT 69
CIN 66
CRB 64
CRBS 63
CIO 67
C-ch 8-bit ADC
9-bit ADC
8
9
Digital Clamp Circuit
73 C0(LSB)
80 C7(MSB)
46 XCOE
21 TGR
47 CTL0
49 CTL2
50 SY
Decoder
Clamp Control
AVSS 24
AVSS 27
AVSS 38
60 AVSS
61 AVSS
65 AVSS
52 CLK
58 CLE
53 CLP
51 SEL
54 REF0
57 REF3
59 TEST
43 TEST

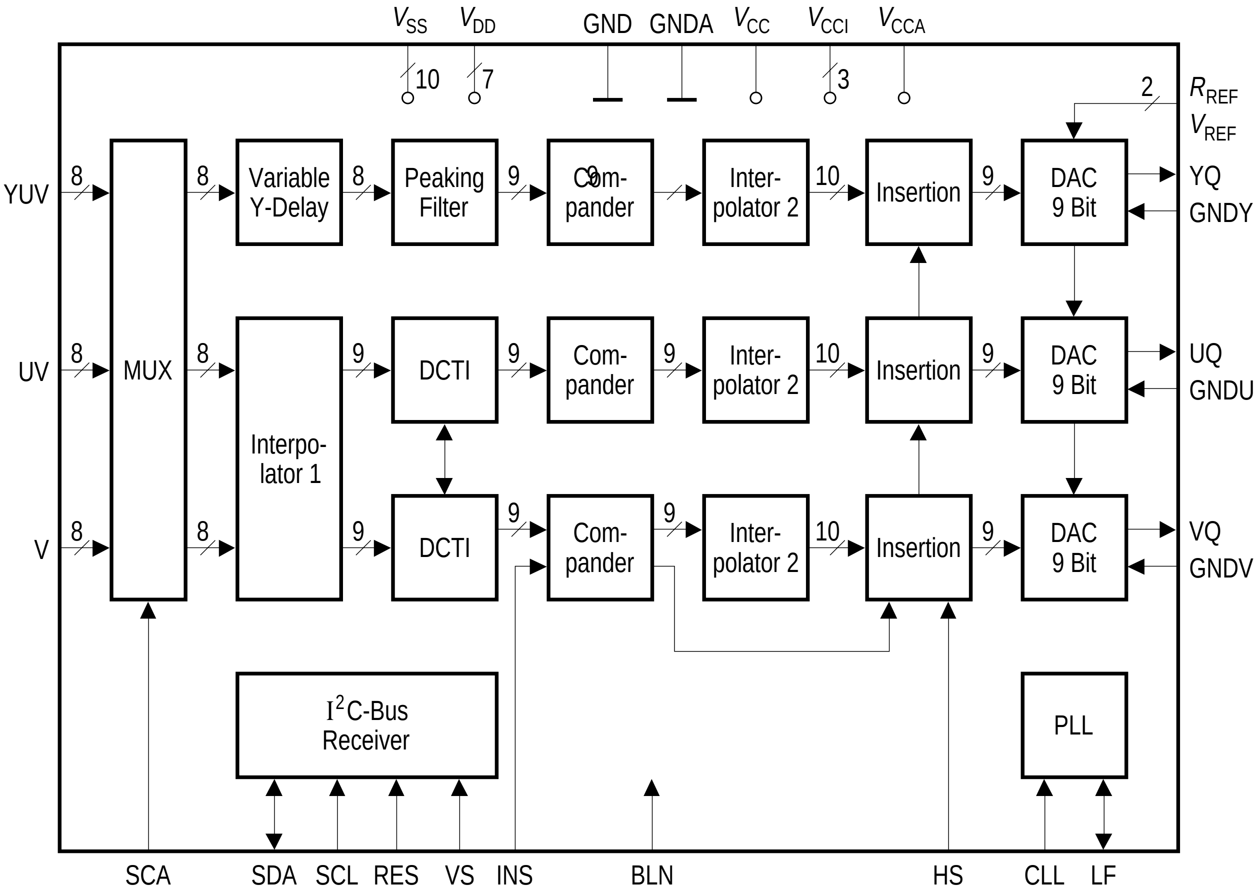
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	DVDD	–	Digital power supply +5V or +3.3V	41	AVDD	–	Analog power supply +5V
2	DVDD	–		42	AVDD	–	
3	B0	O	Digital output (B0: LSB, B7: MSB)	43	TEST	I	Open at normal use (built-in pull-down resistor)
4	B1			44	XAOE	I	Output enable input L: output, H: High-impedance
5	B2			45	XBOE		
6	B3			46	XCOE		
7	B4			47	CTL0	I	Decides the digital output mode (built-in pull-down resistor)
8	B5			48	CTL1		
9	B6			49	CTL2		
10	B7			50	SY	I	Control the switching timing of the digital output mode (built-in pull-down resistor)
11	DVSS	–	Digital ground	51	SEL	I	Control the polarity of CLP signal L: CLP is High, H: CLP is Low (built-in pull-down resistor)
12	DVSS	–		52	CLK	I	Clock input (built-in pull-down resistor)
13	A0	O	Digital output (A0: LSB, A7: MSB)	53	CLP	I	Clamp pulse input (built-in pull-down resistor)
14	A1			54	REF0	I	Decides the reference data of the clamp circuit (built-in pull-down resistor)
15	A2			55	REF1		
16	A3			56	REF2		
17	A4			57	REF3		
18	A5			58	CLE	I	Clamp enable L: Clamp circuit is not operate , H: Clamp circuit operates (built-in pull-down resistor)
19	A6			59	TEST	I	Open at normal use (built-in pull-down resistor)
20	A7			60	AVSS	–	Analog ground
21	TGR	O	Trigger output	61	AVSS	–	
22	DVDD	–	Digital power supply +5V or +3.3V	62	AVDD	–	Analog power supply +5V
23	DVDD	–		63	CRBS	–	Generates about 0.5V to CRB pin by short-circuiting to AVSS
24	AVSS	–	Analog ground	64	CRB	–	Reference voltage (Bottom)
25	ARBS	–	Generates about 0.5V to ARB pin by short-circuiting to AVSS	65	AVSS	–	Analog ground
26	ARB	–	Reference voltage (Bottom)	66	CIN	I	Analog input
27	AVSS	–	Analog ground	67	CIO	O	Analog output (D/A converter output pin)
28	AIN	I	Analog input	68	AVDD	–	Analog power supply +5V
29	AIO	O	Analog output (D/A converter output pin)	69	CRT	–	Reference voltage (Top)
30	AVDD	–	Analog power supply +5V	70	CRTS	–	Generates about 2.5V to CRT pin by short-circuiting to AVDD
31	ART	–	Reference voltage (Top)	71	DVSS	–	Digital ground
32	ARTS	–	Generates about 2.5V to ART pin by short-circuiting to AVDD	72	DVSS	–	
33	BRTS	–	Generates about 2.5V to BRT pin by short-circuiting to AVDD	73	C0	O	Digital output (C0: LSB, C7: MSB)
34	BRT	–	Reference voltage (Top)	74	C1		
35	AVDD	–	Analog power supply +5V	75	C2		
36	BIO	O	Analog output (D/A converter output pin)	76	C3		
37	BIN	I	Analog input	77	C4		
38	AVSS	–	Analog ground	78	C5		
39	BRB	–	Reference voltage (Bottom)	79	C6		
40	BRBS	–	Generates about 0.5V to BRB pin by short-circuiting to AVSS	80	C7		

■ SDA9280 (SUB VIDEO SERVICE ASSY : IC3602)

- **D/A Converter**

● Block Diagram


V_{SS}
V_{DD}
GND
GNDA
V_{CC}
V_{CCI}
V_{CCA}
10
7
3
2
R_{REF}
V_{REF}
YUV
UV
V
8
MUX
Variable Y-Delay
Peaking Filter
Com-pander
Inter-polator 2
Insertion
DAC 9 Bit
Interpo-lator 1
DCTI
9
10
YQ
GNDY
UQ
GNDU
VQ
GNDV
I²C-Bus Receiver
PLL
SCA
SDA
SCL
RES
VS
INS
BLN
HS
CLL
LF

- **Pin Function**

Pin No.	Symbol	Type	Description
1,17,35	V_{SS}	S	Supply voltage (V_{SS}) for input stages
8,9,27,34,43, 60,63	V_{SS}	S	Supply voltage (V_{SS}) for digital parts and PLL ***Note**: no internal connection to pins No 1,17,35*
10,11,26,33, 42,61,62	V_{DD}	S	Supply voltage (V_{DD}) for digital parts, PLL and input stages ***Note**: internal connection to V_{CCI}, V_{CCA} (about 2 Ω)*
64 ... 68, 2 ... 4	V0 ... 7	I/TTL	Data input V (see Data Input Formats)
5,6,7,12 ... 16	UV0 ... 7	I/TTL	Data input UV (see Data Input Formats)
18 ... 25	YUV0 ... 7	I/TTL	Data input YUV (see Data Input Formats)
28	BLN	I/TTL	Blanking signal, high level indicates active video line
29	INS	I/TTL	Control signal for insertion of an arbitrary pattern (frame insertion)
30	SCA	I/TTL	Clock signal for data input
31	RES	I/TTL	Reset signal (active low) for I^2C Bus
32	SCL	I	I^2C-Bus clock line
36	SDA	IQ	I^2C-Bus data line
37	TEST		Don't connect
38	VS	I/TTL	Vertical synchronization signal for synchronizing I^2C Bus (active: HIGH)
39	CLL	I/TTL	System clock
40	HS	I/TTL	Control signal for black level insertion (line frequency)
41	TEST		Connect to VSS
44	LF		PLL-filter connection
45,48,52	V_{CCI}	S	Analog supply voltage for DACs internally connected to V_{DD}, V_{CCA} (about 2 Ω)
46	GNDY	S	Return path for YQ
47	YQ	Q/ana	Analog output: luminance signal Y
49	V_{CCA}	S	Analog supply voltage internally connected to V_{DD}, V_{CCI} (about 2 Ω)
50	GNDV	S	Return path for VQ
51	VQ	Q/ana	Analog output: chrominance signal -(R-Y)
53	GNDU	S	Return path for UQ
54	UQ	Q/ana	Analog output: chrominance signal -(B-Y)
55	GNDA	S	Analog supply voltage
56	V_{REF}	I/ana	Analog reference voltage for DACs
57	R_{REF}		Reference resistor for DACs
58	V_{CC}	S	Analog supply voltage
59	GND	S	Analog supply voltage

S: supply, I: input, Q: output, TTL: digital (TTL)

■ CXA3106Q (SUB VIDEO SERVICE ASSY : IC3201)

- **PLL IC**

● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	IOVCC	–	Digital power supply	25	TTLGND	–	GND for TTL output
2	IOGND	–	Digital GND	26	TTLVCC	–	Power supply for TTL output
3	VCOH	I	External VCO input	27	IOGND	–	Digital GND
4	VCOL	I	External inverting VCO input	28	PECLVCC	–	Power supply for PECL output
5	VCO	I	External VCO input	29	CLK/2L	O	Inverting 1/2 clock output
6	HOLD	I	Phase comparating disable signal input	30	CLK/2H	O	1/2 clock output
7	SYNCH	I	Sync input	31	CLKL	O	Inverting clock output
8	SYNCL	I	Inverting sync input	32	CLKH	O	Clock output
9	SYNC	I	Sync input	33	DSYNCL	O	Delay sync signal output
10	SENABLE		Control signal (enable)	34	DSYNCH	O	Inverting delay sync signal output
11	SCLK		Control signal (clock)	35	VBB	–	Reference voltage of PECL
12	SDATA		Control signal (data)	36	PECLVCC	–	Power supply for PECL output
13	TLOAD	I	Programmable counter test input	37	IOGND	–	Digital GND
14	CS		Chip select	38	IOVCC	–	Digital power supply
15	SEROUT	O	Register read output	39	PLLVCC	–	Analog power supply for PLL circuit
16	DIVOUT	O	Programmable counter test output	40	PLLGND	–	Analog GND for PLL circuit
17	UNLOCK	O	Unlock signal output	41	VCOVCC	–	Analog power supply for VCO circuit
18	DVCC	–	Digital power supply	42	VCOGND	–	Analog GND for VCO circuit
19	DGND	–	Digital GND	43	VCOHGND	–	Analog GND for VCO SUB
20	CLK/2N	O	Inverting 1/2 clock outpit	44	IREF	–	For generates the charge pump current
21	CLK/2	O	1/2 clock output	45	RC2	–	External connection pin for LPF
22	CLKN	O	Inverting clock output	46	RC1	–	External connection pin for LPF
23	CLK	O	Clock output	47	IRGND	–	Analog GND for IREF
24	DSYNC	O	Delay sync signal output	48	IRVCC	–	Analog power supply for IREF

■ PE5066A (SUB VIDEO SERVICE ASSY : IC3401)

• I/P System Controller IC

● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	GND	–	Ground	46	YP(8)	O	Digital output of sequential converting Y signal (lower bit)
2	GND	–	Ground	47	YP(7)		
3	PRP(15)	O	(upper bit) Digital output of sequential converting R-Y signal (lower bit)	48	YP(6)		
4	PRP(14)			49	YP(5)		
5	PRP(13)			50	YP(4)		
6	PRP(12)			51	YP(3)		
7	PRP(11)			52	YP(2)		
8	PRP(10)			53	YP(1)		
9	PRP(9)			54	YP(0)		
10	PRP(8)			55	HP	O	Sequential converting H. sync signal output
11	PRP(7)			56	VP	O	Sequential converting V. sync signal output
12	PRP(6)			57	HI	I	H. sync signal input
13	PRP(5)			58	VI	I	V. sync signal input
14	PRP(4)			59	GND	–	Ground
15	PRP(3)			60	GND	–	Ground
16	PRP(2)			61	VDD	–	Power supply (3.3V)
17	PRP(1)			62	RES	I	Reset signal input
18	PRP(0)			63	GND	–	Ground
19	PBP(15)	O	Digital output of sequential converting B-Y signal (upper bit)	64	FI	I	Field signal input
20	GND	–	Ground	65	RD	I	RD signal input for PE5066A
21	VDD	–	Power supply (3.3V)	66	HWR	I	HWR signal input for PE5066A
22	PBP(14)	O	Digital output of sequential converting B-Y signal (lower bit)	67	CS	I	CS signal input for PE5066A
23	PBP(13)			68	IPKILL	I	ON/OFF signal input of I/P process
24	PBP(12)			69	NC	–	Non connection
25	PBP(11)			70	FILM	O	Film detection signal output
26	PBP(10)			71	NC	–	Non connection
27	PBP(9)			72	UA(11)	I	Address signal input for PE5066A
28	PBP(8)			73	UA(10)		
29	PBP(7)			74	UA(9)		
30	PBP(6)			75	UA(8)		
31	PBP(5)			76	UA(7)		
32	PBP(4)			77	UA(6)		
33	PBP(3)			78	UA(5)		
34	PBP(2)			79	UA(4)		
35	PBP(1)			80	GND	–	Ground
36	PBP(0)			81	VDD	–	Power supply (3.3V)
37	YP(15)	O	(upper bit) Digital output of sequential converting Y signal	82	UA(3)	I	Address signal input for PE5066A
38	YP(14)			83	UA(2)		
39	YP(13)			84	UA(1)		
40	GND	–	Ground	85	UA(0)		
41	VDD	–	Power supply (3.3V)	86	UD(7)	I/O	Data input/output for PE5066A
42	YP(12)	O	Digital output of sequential converting Y signal	87	UD(6)		
43	YP(11)			88	UD(5)		
44	YP(10)			89	GND	–	Ground
45	YP(9)			90	VDD	–	Power supply (3.3V)

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
91	UD(4)	I/O	Data input/output for PE5066A	141	MDY(23)	I/O	Data input/output for external SGRAM
92	UD(3)			142	MDY(22)		
93	UD(2)			143	MDY(21)		
94	UD(1)			144	MDY(20)		
95	UD(0)			145	MDY(19)		
96	GND	–	Ground	146	MDY(18)		
97	MDC(23)	I/O	Data input/output for external SGRAM	147	MDY(17)		
98	MDC(22)			148	MDY(16)		
99	MDC(21)			149	MDY(7)		
100	VDD	–	Power supply (3.3V)	150	MDY(6)		
101	GND	–	Ground	151	MDY(5)		
102	MDC(20)	I/O	Data input/output for external SGRAM	152	MDY(4)		
103	MDC(19)			153	MDY(3)		
104	MDC(18)			154	MDY(2)		
105	MDC(17)			155	MDY(1)		
106	MDC(16)			156	MDY(0)		
107	MDC(7)			157	MA(10)	O	Address signal output for external SGRAM
108	MDC(6)			158	MA(8)		
109	MDC(5)			159	MA(0)		
110	MDC(4)			160	VDD	–	Power supply (3.3V)
111	MDC(3)			161	GND	–	Ground
112	MDC(2)			162	MA(1)	O	Address signal output for external SGRAM
113	MDC(1)			163	MA(2)		
114	MDC(0)			164	MA(3)		
115	MCLKC	O	CLK signal output for external SGRAM	165	MA(4)		
116	MCS	O	CS signal output for external SGRAM	166	MA(5)		
117	MRAS	O	RAS signal output for external SGRAM	167	MA(6)		
118	MCAS	O	CAS signal output for external SGRAM	168	MA(7)		
119	MWE	O	WE signal output for external SGRAM	169	MA(9)		
120	VDD	–	Power supply (3.3V)	170	MCLKY	O	CLK signal output for external SGRAM
121	GND	–	Ground	171	MDY(31)	I/O	Data input/output for external SGRAM
122	GND	–	Ground	172	MDY(30)		
123	MDC(31)	I/O	Data input/output for external SGRAM	173	MDY(29)		
124	MDC(30)			174	MDY(28)		
125	MDC(29)			175	MDY(27)		
126	MDC(28)			176	MDY(26)		
127	MDC(27)			177	MDY(25)		
128	MDC(26)			178	MDY(24)		
129	MDC(25)			179	GND	–	Ground
130	MDC(24)			180	GND	–	Ground
131	MDC(15)			181	VDD	–	Power supply (3.3V)
132	MDC(14)			182	MDY(15)	I/O	Data input/output for external SGRAM
133	MDC(13)			183	MDY(14)		
134	MDC(12)			184	MDY(13)		
135	MDC(11)			185	MDY(12)		
136	MDC(10)			186	MDY(11)		
137	MDC(9)			187	MDY(10)		
138	MDC(8)			188	MDY(9)		
139	GND	–	Ground	189	MDY(8)		
140	VDD	–	Power supply (3.3V)	190	NC	–	Non connection

No.	Pin Name	I/O	Pin Function
191	NC	–	Non connection
192	NC		
193	NC		
194	NC		
195	NC		
196	NC		
197	NC		
198	NC		
199	NC		
200	GND	–	Ground
201	VDD	–	Power supply (3.3V)
202	NC	–	Non connection
203	NC		
204	NC		
205	NC		
206	NC		
207	NC		
208	NC		
209	NC		
210	NC		
211	NC		
212	YI(7)	I	(upper bit)
213	YI(6)		Digital input of Y signal
214	YI(5)		
215	YI(4)		
216	YI(3)	I	
217	YI(2)		Digital input of Y signal
218	YI(1)		
219	YI(0)		(lower bit)
220	VDD	–	Power supply (3.3V)
221	GND	–	Ground
222	PBI(7)	I	(upper bit)
223	PBI(6)		
224	PBI(5)		
225	PBI(4)		Digital input of B-Y signal
226	PBI(3)		
227	PBI(2)		
228	PBI(1)		
229	PBI(0)		(lower bit)
230	PRI(7)	I	(upper bit)
231	PRI(6)		
232	PRI(5)		
233	PRI(4)		Digital input of R-Y signal
234	PRI(3)		
235	PRI(2)		
236	PRI(1)		
237	PRI(0)		(lower bit)
238	GND	–	Ground
239	CLK	I	System clock input
240	VDD	–	Power supply (3.3V)

■ PE5067A (SUB VIDEO SERVICE ASSY : IC3501)

• I/P System Controller IC

● Pin Function

No.	Pin Name	I/O	Pin Function
1	GND	–	Ground
2	GND	–	Ground
3	CLK	I	System clock input
4	GND	–	Ground
5	GBI(0)	I	(lower bit)
6	GBI(1)		
7	GBI(2)		
8	GBI(3)		Demultiplex digital input B of G/Y signal
9	GBI(4)		
10	GBI(5)		
11	GBI(6)		
12	GBI(7)		(upper bit)
13	BBI(0)	I	(lower bit)
14	BBI(1)		
15	BBI(2)		
16	BBI(3)		Demultiplex digital input B of B/PB signal
17	BBI(4)		
18	BBI(5)		
19	VDD	–	Power supply (3.3V)
20	GND	–	Ground
21	BBI(6)	I	Demultiplex digital input B of B/PB signal (upper bit)
22	BBI(7)		
23	RAI(0)	I	(lower bit)
24	RAI(1)		
25	RAI(2)		
26	RAI(3)		Demultiplex digital input A of R/PR signal
27	RAI(4)		
28	RAI(5)		
29	RAI(6)		
30	RAI(7)		(upper bit)
31	GAI(0)	I	(lower bit)
32	GAI(1)		
33	GAI(2)		
34	GAI(3)		Demultiplex digital input A of G/Y signal
35	GAI(4)		
36	GAI(5)		
37	VDD	–	Power supply (3.3V)
38	VDD	–	
39	GND	–	Ground
40	GND	–	
41	GAI(6)	I	Demultiplex digital input A of G/Y signal (upper bit)
42	GAI(7)		
43	BAI(0)	I	(lower bit)
44	BAI(1)		
45	BAI(2)		
46	BAI(3)		
47	BAI(4)		Demultiplex digital input A of B/PB signal
48	BAI(5)		
49	BAI(6)		
50	BAI(7)		(upper bit)
51	DEI	I	Data enable input for external DIGITAL I/F
52	HDI	I	H. sync signal input
53	VDI	I	V. sync signal input
54	FLDI	I	Field signal input (Not used)
55	GND	–	Ground
56	RES	I	Reset signal input
57	VDD	–	Power supply (3.3V)
58	GND	–	Ground
59	HCLR	O	Histogram clear signal output
60	FDET	O	ON/OFF judge signal output of I/P process
61	VACT	O	Histogram signal output
62	WAIT	O	WAIT signal input for PE5067A
63	NC	–	Non connection
64	HWR	I	HWR signal input for PE5067A
65	RD	I	RD signal input for PE5067A
66	CS	I	CS signal input for PE5067A
67	EMG_IP	I	Compulsory hardware through function
68	UA(11)	I	Address signal input for PE5067A
69	UA(10)		
70	UA(9)		
71	UA(8)		
72	UA(7)		
73	UA(6)		
74	UA(5)		
75	GND	–	Ground
76	GND	–	
77	VDD	–	Power supply (3.3V)
78	VDD	–	
79	UA(4)	I	Address signal input for PE5067A
80	UA(3)		
81	UA(2)		
82	UA(1)		
83	UA(0)		
84	GND	–	Ground
85	UD(7)	I/O	Data input/output for PE5067A
86	UD(6)		
87	UD(5)		
88	UD(4)		
89	GND	–	Ground
90	UD(3)	I/O	Data input/output for PE5067A
91	UD(2)		
92	UD(1)		
93	UD(0)		
94	FLDO	O	System output of field signal
95	GND	–	Ground
96	GND	–	
97	VDO	O	System output of sequential converting V. sync signal
98	HDO	O	System output of sequential converting H. sync signal
99	DEO	O	Sequential converting data enable output
100	BAO(7)	O	Demultiplex digital outut A of B/PB signal (upper bit)

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
101	BAO(6)	O	Demultiplex digital outut A of B/PB signal	152	VDD	–	Power supply (3.3V)
102	BAO(5)			153	GND	–	Ground
103	BAO(4)			154	GND	–	
104	VDD	–	Power supply (3.3V)	155	GBO(0)	O	Demultiplex digital outut B of G/Y signal (lower bit)
105	GND	–	Ground	156	RBO(7)	O	(upper bit) Demultiplex digital outut B of R/PR signal
106	BAO(3)	O	Demultiplex digital outut A of B/PB signal (lower bit)	157	RBO(6)		
107	BAO(2)			158	RBO(5)		
108	BAO(1)			159	RBO(4)		
109	BAO(0)			160	RBO(3)		
110	GAO(7)	O	(upper bit) Demultiplex digital outut A of G/Y signal	161	RBO(2)		
111	GAO(6)			162	VDD	–	Power supply (3.3V)
112	GAO(5)			163	GND	–	Ground
113	VDD	–	Power supply (3.3V)	164	RBO(1)	O	Demultiplex digital outut B of R/PR signal (lower bit)
114	VDD	–		165	RBO(0)		
115	GND	–	Ground	166	FI	O	Field signal output
116	GND	–		167	VI	O	V. sync signal output
117	GAO(4)	O	Demultiplex digital outut A of G/Y signal (lower bit)	168	HI	O	H. sync signal output
118	GAO(3)			169	VP	I	Sequential converting V. sync signal input
119	GAO(2)			170	HP	I	Sequential converting H. sync signal input
120	GAO(1)			171	VDD	–	Power supply (3.3V)
121	GAO(0)			172	GND	–	Ground
122	RAO(7)	O	(upper bit) Demultiplex digital outut A of R/PR signal	173	PRP(0)	I	(lower bit) Digital input of R-Y signal after sequential converted (upper bit)
123	RAO(6)			174	PRP(1)		
124	VDD	–	Power supply (3.3V)	175	PRP(2)		
125	GND	–	Ground	176	PRP(3)		
126	RAO(5)	O	Demultiplex digital outut A of R/PR signal (lower bit)	177	PRP(4)		
127	RAO(4)			178	PRP(5)		
128	RAO(3)			179	PRP(6)		
129	RAO(2)			180	PRP(7)		
130	RAO(1)			181	PRP(8)		
131	RAO(0)			182	PRP(9)		
132	VCLK	O	Sync clock output of digital output	183	PRP(10)		
133	GND	–	Ground	184	PRP(11)		
134	GND	–		185	PRP(12)		
135	BBO(7)	O	(upper bit) Demultiplex digital outut B of B/PB signal (lower bit)	186	PRP(13)		
136	BBO(6)			187	PRP(14)		
137	BBO(5)			188	PRP(15)		
138	BBO(4)			189	VDD	–	Power supply (3.3V)
139	BBO(3)			190	VDD	–	
140	BBO(2)			191	GND	–	Ground
141	BBO(1)			192	GND	–	
142	BBO(0)			193	PBP(0)	I	(lower bit) Digital input of B-Y signal after sequential converted
143	GND	–	Ground	194	PBP(1)		
144	GBO(7)	O	(upper bit) Demultiplex digital outut B of G/Y signal	195	PBP(2)		
145	GBO(6)			196	PBP(3)		
146	GBO(5)			197	PBP(4)		
147	GBO(4)			198	PBP(5)		
148	GBO(3)			199	PBP(6)		
149	GBO(2)			200	PBP(7)		
150	GBO(1)			201	PBP(8)		
151	VDD	–	Power supply (3.3V)	202	PBP(9)		

No.	Pin Name	I/O	Pin Function
203	PBP(10)	I	Digital input of B-Y signal after sequential converted
204	PBP(11)		
205	PBP(12)		
206	PBP(13)		
207	PBP(14)		
208	PBP(15)		(upper bit)
209	VDD	–	Power supply (3.3V)
210	GND	–	Ground
211	YP(0)	I	(lower bit) Digital input of sequential converting Y signal
212	YP(1)		
213	YP(2)		
214	YP(3)		
215	YP(4)		
216	YP(5)		
217	YP(6)		
218	YP(7)		
219	YP(8)		
220	YP(9)		
221	YP(10)		
222	YP(11)		
223	YP(12)		
224	YP(13)		
225	YP(14)		
226	YP(15)		(upper bit)
227	GND	–	Ground
228	GND	–	
229	VDD	–	Power supply (3.3V)
230	VDD	–	
231	PRI(0)	O	(lower bit) Digital output of R-Y signal
232	PRI(1)		
233	PRI(2)		
234	PRI(3)		
235	PRI(4)		
236	PRI(5)		
237	PRI(6)		
238	PRI(7)		(upper bit)
239	PBI(0)	O	(lower bit) Digital output of B-Y signal
240	PBI(1)		
241	PBI(2)		
242	PBI(3)		
243	PBI(4)		
244	PBI(5)		
245	PBI(6)		
246	PBI(7)		(upper bit)
247	GND	–	Ground
248	GND	–	
249	YI(0)	O	(lower bit) Digital output of Y signal
250	YI(1)		
251	YI(2)		
252	YI(3)		
253	YI(4)		
254	YI(5)	O	Digital output of Y signal
255	YI(6)		
256	YI(7)		(upper bit)
257	NC	–	Non connection
258	NC		
259	NC		
260	NC		
261	NC		
262	NC		
263	NC		
264	NC		
265	VDD	–	Power supply (3.3V)
266	VDD	–	
267	GND	–	Ground
268	GND	–	
269	NC	–	Non connection
270	NC		
271	NC		
272	NC		
273	NC		
274	NC		
275	NC		
276	NC		
277	GND	–	Ground
278	CLP1	O	Programmable CLP output
279	CLP2		
280	HBLK1	O	Programmable HBLK output
281	HBLK2		
282	VBLK1	O	Programmable VBLK output
283	VBLK2		
284	FLD2	O	Programmable field signal output
285	GND	–	Ground
286	GND	–	
287	NC	–	Non connection
288	NC		
289	NC		
290	NC		
291	NC		
292	NC		
293	NC		
294	SGLB	I	SGLB signal input for PE5067A
295	RBI(0)	I	(lower bit) Demultiplex digital input B of R/PR signal
296	RBI(1)		
297	RBI(2)		
298	RBI(3)		
299	RBI(4)		
300	RBI(5)		
301	RBI(6)		
302	RBI(7)		(upper bit)
303	VDD	–	Power supply (3.3V)
304	VDD	–	

■ MS82V16520-8GA (SUB VIDEO SERVICE ASSY : IC3601, IC3604)

- **16M SGRAM**

● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	DQ3	I/O	Data input/output	51	A9	I	Address input
2	VDDQ	–	DQ power supply	52	NC	–	Non connection
3	DQ4	I/O	Data input/output	53	DSF	I	Define special function signal input
4	DQ5			54	CKE	I	Clock enable input
5	VSSQ	–	DQ ground	55	CLK	I	Clock input
6	DQ6	I/O	Data input/output	56	DQM1	I	Data input/output mask input
7	DQ7			57	DQM3		
8	VDDQ	–	DQ power supply	58	NC	–	Non connection
9	DQ16	I/O	Data input/output	59	VDDQ	–	DQ power supply
10	DQ17			60	DQ8	I/O	Data input/output
11	VSSQ	–	DQ ground	61	DQ9		
12	DQ18	I/O	Data input/output	62	VSSQ	–	DQ ground
13	DQ19			63	DQ10	I/O	Data input/output
14	VDDQ	–	DQ power supply	64	DQ11		
15	VDD	–	Power supply	65	VDD	–	Power supply
16	VSS	–	Ground	66	VSS	–	Ground
17	DQ20	I/O	Data input/output	67	VDDQ	–	DQ power supply
18	DQ21			68	DQ12	I/O	Data input/output
19	VSSQ	–	DQ ground	69	DQ13		
20	DQ22	I/O	Data input/output	70	VSSQ	–	DQ ground
21	DQ23			71	DQ14	I/O	Data input/output
22	VDDQ	–	DQ power supply	72	DQ15		
23	DQM0	I	Data input/output mask input	73	VDDQ	–	DQ power supply
24	DQM2			74	DQ24	I/O	Data input/output
25	WE#	I	Write enable signal input	75	DQ25		
26	CAS#	I	Column address strobe signal input	76	VSSQ	–	DQ ground
27	RAS#	I	Row address strobe signal input	77	DQ26	I/O	Data input/output
28	CS#	I	Chip select input	78	DQ27		
29	BS	I	Bank select input	79	VDDQ	–	DQ power supply
30	A8	I	Address input	80	DQ28	I/O	Data input/output
31	A0			81	DQ29		
32	A1			82	VSSQ	–	DQ ground
33	A2			83	DQ30	I/O	Data input/output
34	A3			84	DQ31		
35	VDD	–	Power supply	85	VSS	–	Ground
36	NC	–	Non connection	86	NC	–	Non connection
37	NC			87	NC		
38	NC			88	NC		
39	NC			89	NC		
40	NC			90	NC		
41	NC			91	NC		
42	NC			92	NC		
43	NC			93	NC		
44	NC			94	NC		
45	NC			95	NC		
46	VSS	–	Ground	96	VDD	–	Power supply
47	A4	I	Address input	97	DQ0	I/O	Data input/output
48	A5			98	DQ1		
49	A6			99	VSSQ	–	DQ ground
50	A7			100	DQ2	I/O	Data input/output

■ HD64F3067RF20 (SUB VIDEO SERVICE ASSY : IC3801)

• I/P System micro-computer IC

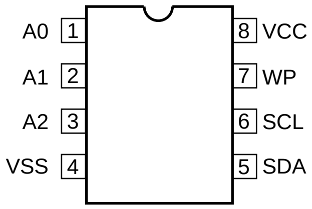
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	VCC	–	Power supply (+5V)	51	A14	I	Non connection
2	CS7	O	Non connection	52	A15	I	
3	CS6	O		53	A16	O	
4	CS5	O		54	A17	O	
5	CS4	O	Chip select of PE5066A	55	A18	O	
6	UCAS	O	Data phase control of PE5067A	56	A19	O	
7	LCAS	I/O	For microcomputer communication (Not used)	57	VSS	–	Ground
8	PB6	O		58	WAIT	I	WAIT signal of PE5067A
9	PB7	I		59	BREQ	I	Non connection
10	FEW	I	For writing the flash	60	BACK	O	Compulsory hardware through of PE5067A (Not used)
11	VSS	–	Ground	61	P18 (ϕ)	I	Clock output
12	P90	O	Error signal for communicating with main unit microcomputer	62	STBY	I	––
13	TxD1	O	For writing the flash	63	RES	I	Hardware reset of I/P microcomputer
14	RxD0	I	Data for communicating with main unit microcomputer	64	NMI	I	––
15	RxD1	I	For writing the flash	65	VSS	–	Ground
16	SCK0	I	Clock for communicating with main unit microcomputer	66	EXTAL	I	Connect a crystal oscillator
17	P95	O	Busy for communicating with main unit microcomputer	67	XTAL	I	
18	D0	O	For test	68	VCC	–	Power supply (+5V)
19	D1			69	AS	O	Non connection
20	D2			70	RD	O	RD for PE5066A/5067A
21	D3			71	HWR	O	HWR for PE5066A/5067A
22	VSS	–	Ground	72	LWR	O	––
23	D4	O	For test	73	MD0	I	––
24	D5			74	MD1	I	––
25	D6			75	MD2	I	––
26	D7			76	AVCC	–	Power supply (+5V)
27	D8	I/O	Data bus 8-bit	77	VREF	–	Reference voltage setting (+5V)
28	D9			78	P70	I	Non connection
29	D10			79	P71	I	
30	D11			80	P72	I	
31	D12			81	P73	I	
32	D13			82	P74	I	
33	D14			83	P75	I	
34	D15			84	P76	I	PLL unlock detection (Not used)
35	VCC	–	Power supply (+5V)	85	P77	I	Obtain the external film information (Not used)
36	A0	O	Address bus 12-bit	86	AVSS	–	Ground
37	A1			87	IRQ0	I	Obtain the film information
38	A2			88	IRQ1	I	Obtain the histogram
39	A3			89	IRQ2	I	Vertical sync input
40	A4			90	IRQ3	O	Chip select of PE5067A
41	A5			91	CS0	I	Field judgement
42	A6			92	VSS	–	Ground
43	A7			93	PA0	I	System frequency detection (Not used)
44	VSS	–	Ground	94	PA1	I	Horizontal sync input
45	A8	O	Address bus 12-bit	95	PA2	O	––
46	A9			96	PA3	O	––
47	A10			97	PA4	O	For test
48	A11			98	PA5	O	
49	A12	I	Non connection	99	PA6	O	IP process (PE5066A) stop control
50	A13	I	Non connection	100	PA7	O	IP system reset

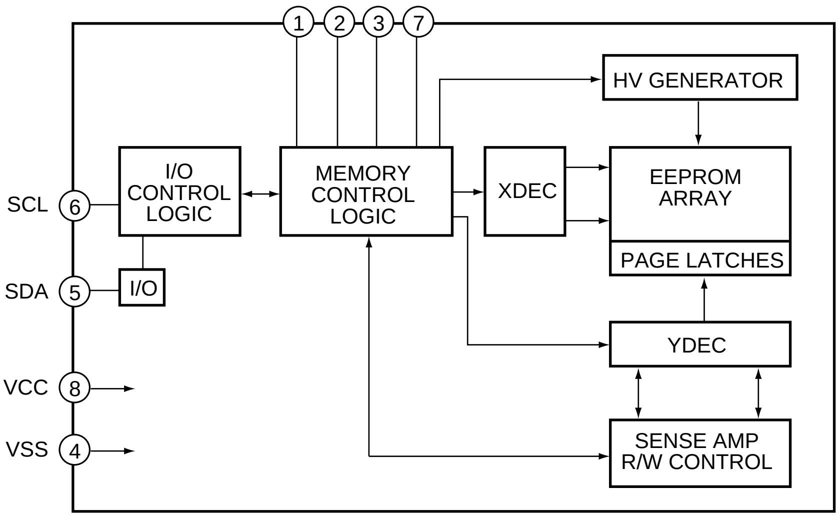
24LC128(I)P (DIGITAL CONV. ASSY : IC1410)

- **128Kbit CMOS Serial EEPROM**

● Pin Assignment (Top view)


A0 1
A1 2
A2 3
VSS 4
8 VCC
7 WP
6 SCL
5 SDA

● Block Diagram


A0
A1
A2
WP
1
2
3
7
HV GENERATOR
SCL
6
I/O CONTROL LOGIC
MEMORY CONTROL LOGIC
XDEC
EEPROM ARRAY
PAGE LATCHES
SDA
5
I/O
YDEC
VCC
8
VSS
4
SENSE AMP R/W CONTROL

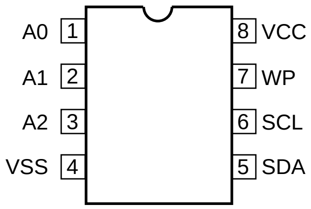
● Pin Function

No.	Pin Name	Pin Function
1	A0	User configurable chip selects
2	A1	
3	A2	
4	VSS	Ground
5	SDA	Serial Data
6	SCL	Serial clock
7	WP	Write protect input
8	VCC	+2.5V to 5.5V power supply

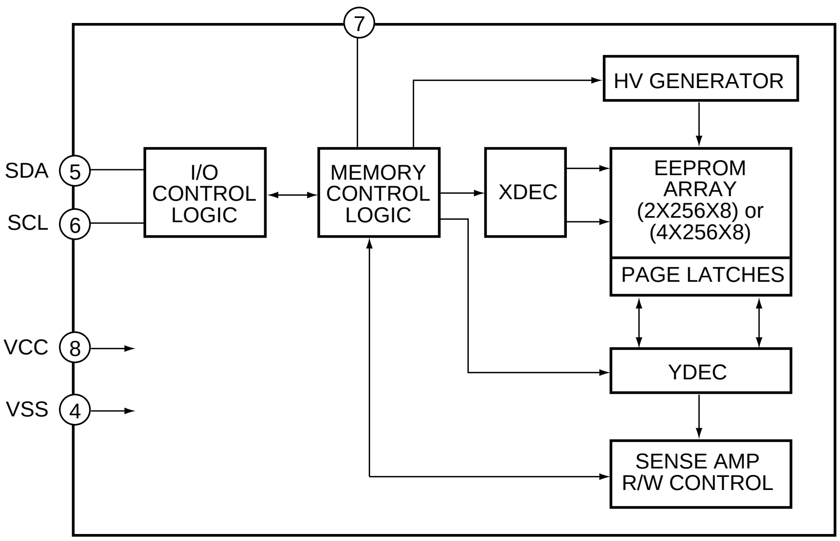
24LC08B(I)P (DIGITAL CONV. ASSY : IC1656)

- **8Kbit CMOS Serial EEPROM**

● Pin Assignment (Top view)


A0 1
A1 2
A2 3
VSS 4
8 VCC
7 WP
6 SCL
5 SDA

● Block Diagram


WP
7
HV GENERATOR
SDA
5
SCL
6
I/O CONTROL LOGIC
MEMORY CONTROL LOGIC
XDEC
EEPROM ARRAY (2X256X8) or (4X256X8)
PAGE LATCHES
VCC
8
YDEC
VSS
4
SENSE AMP R/W CONTROL

● Pin Function

No.	Pin Name	Pin Function
1	A0	No internal connection
2	A1	
3	A2	
4	VSS	Ground
5	SDA	Serial Address/Data I/O
6	SCL	Serial clock
7	WP	Write protect input
8	VCC	+2.5V to 5.5V power supply

■ CM0006CF (DIGITAL CONV. ASSY : IC1401)

• Digital Convergence Correction IC

● Pin Function

No.	Pin Name	I/O	Pin Function
1	TEST1	I/O	Non connection
2	XSTOP	I/O	Input of compulsory stop for accessing external EEPROM (low active, internal pull-up resistance)
3	XWC	O	Output of write control to external EEPROM (low active)
4	SDAM	I/O	Serial data input/output (open-drain) to external EEPROM for I^2C-bus master
5	SCLM	I/O	Clock output to external EEPROM for I^2C-bus master
6	DVDD	–	+5V power supply to digital circuits
7	DVSS	–	Common of digital circuits
8	XOFDET	O	Output of DSP overflow detection (low active)
9	XMUTE	I	Mute input (low active)
10	XRESET	I	Reset input (low active)
11	XBUSY	O	Busy input (low active)
12	XACKM	O	ACK monitor output (low active)
13	SDAS	I/O	Serial data input/output (open-drain) to external master for I^2C-bus slave
14	SCLS	I/O	Clock input from external master for I^2C-bus slave
15	HBLKIN	I	Horizopntal blanking pulse input (TTL level compatible)
16	PWM1	O	Pulse width modulation output-1
17	PWM2	O	Pulse width modulation output-2
18	VBLKIN	I	Vertical blanking pulse input (TTL level compatible)
19	TEST3	I/O	Non connection
20	ODDEVEN	I/O	Odd/Even input/output, Odd (High)/Even (Low) (internal pull-up resistance)
21	ROUT	O	Red test pattern output
22	GOUT	O	Green test pattern output
23	BOUT	O	Blue test pattern output
24	YMOUT	O	Contrast control output
25	YSOUT	O	OSD control output
26	HBLKOUT	I/O	Regenerated horizontal blanking pulse output (internal pull-up resistance)
27	WCLK	O	Word clock output for external DAC
28	BCLK	O	Bit clock output for external DAC
29	TEST4	I/O	Clock input for external PLL mode
30	TEST5	I/O	Output to phase comparison for external PLL mode
31	PLLVDD	–	+5V analog power supply for VCO and phase detector
32	PDOUT	O	Phase detector output (external loop filter connection to VCOIN terminal)
33	PLLVSS	–	Common of analog circuits for VCO and phase detector
34	VCOIN	I	VCO input (external loop filter connection from PDOUT terminal)
35	R1	–	External resistance for setting VCO initial transmission frequency (external resistance connection)
36	R2	–	External resistance for setting VCO gain (external resistance connection)
37	DAREF	–	Bias for dynamic focus DAC (external filter capacitor connection)
38	DAOUT	O	Dynamic focus DAC output
39	DAVDD	–	+5V analog power supply for dynamic focus DAC
40	DAVSS	–	Common of analog circuits for dynamic focus DAC
41	SHBIAS	I	Bias resistance (external resistance connection)
42	DVSS	–	Common of digital circuits

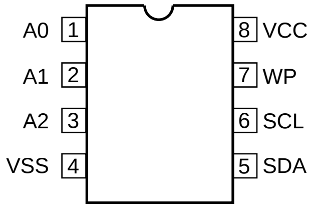
No.	Pin Name	I/O	Pin Function
43	DVDD	–	+5V power supply to digital circuits
44	BVOUT	O	Serial data output of vertical blue convergence
45	GVOUT	O	Serial data output of vertical green convergence
46	RVOUT	O	Serial data output of vertical red convergence
47	DVDD	–	+5V power supply to digital circuits
48	NC	–	Non connection
49	NC	–	Non connection
50	NC	–	Non connection
51	DVDD	–	+5V power supply to digital circuits
52	NC	–	Non connection
53	NC	–	Non connection
54	DVSS	–	Common of digital circuits
55	NC	–	Non connection
56	NC	–	Non connection
57	DVDD	–	+5V power supply to digital circuits
58	BHOUT	O	Serial data output of horizontal blue convergence
59	GHOUT	O	Serial data output of horizontal green convergence
60	RHOUT	O	Serial data output of horizontal red convergence
61	TEST6	I	Non connection
62	TEST7	I	Non connection
63	TEST8	I	Non connection
64	TEST9	I	Non connection
65	TEST10	I	Non connection
66	TEST11	I	Non connection
67	DAMODE	I	External DAC mode setting
68	DIVCNT	I	Divider setting
69	TEST14	I/O	Non connction
70	TEST15	I/O	Non connection
71	TEST16	I/O	Non connection
72	TEST17	I/O	Non connection
73	TEST18	I/O	Non connection
74	TEST19	I/O	Non connection
75	TEST20	I/O	Non connection
76	TEST21	I/O	Non connection
77	TEST22	I/O	Non connection
78	TEST23	I/O	Non connection
79	TEST24	I/O	Non connection
80	TEST25	I/O	Non connection

Note: (1) A symbol beginning with "X" indicates negative logic.
(2) The terminals from "TEST1" to "TEST25" excluding "TEST4" and "TEST5" are prohibited to use.
Finish these terminals are open terminals or pull-up to VDD.

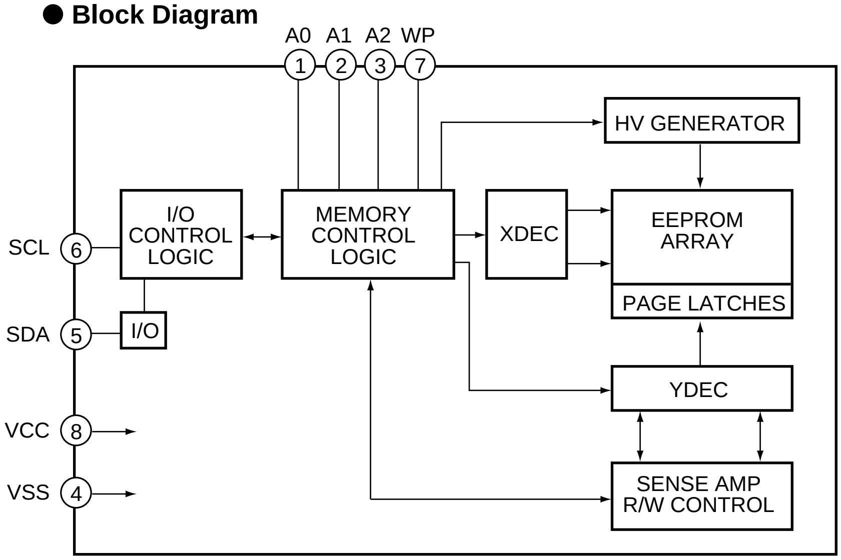
■ 24LC32A(I)P (SIGNAL ASSY : IC2454)

• 32Kbit CMOS Serial EEPROM

● Pin Assignment (Top view)


A0 1
A1 2
A2 3
VSS 4
8 VCC
7 WP
6 SCL
5 SDA

● Block Diagram


A0
A1
A2
WP
1
2
3
7
HV GENERATOR
SCL 6
I/O CONTROL LOGIC
MEMORY CONTROL LOGIC
XDEC
EEPROM ARRAY
PAGE LATCHES
SDA 5
I/O
YDEC
VCC 8
VSS 4
SENSE AMP R/W CONTROL

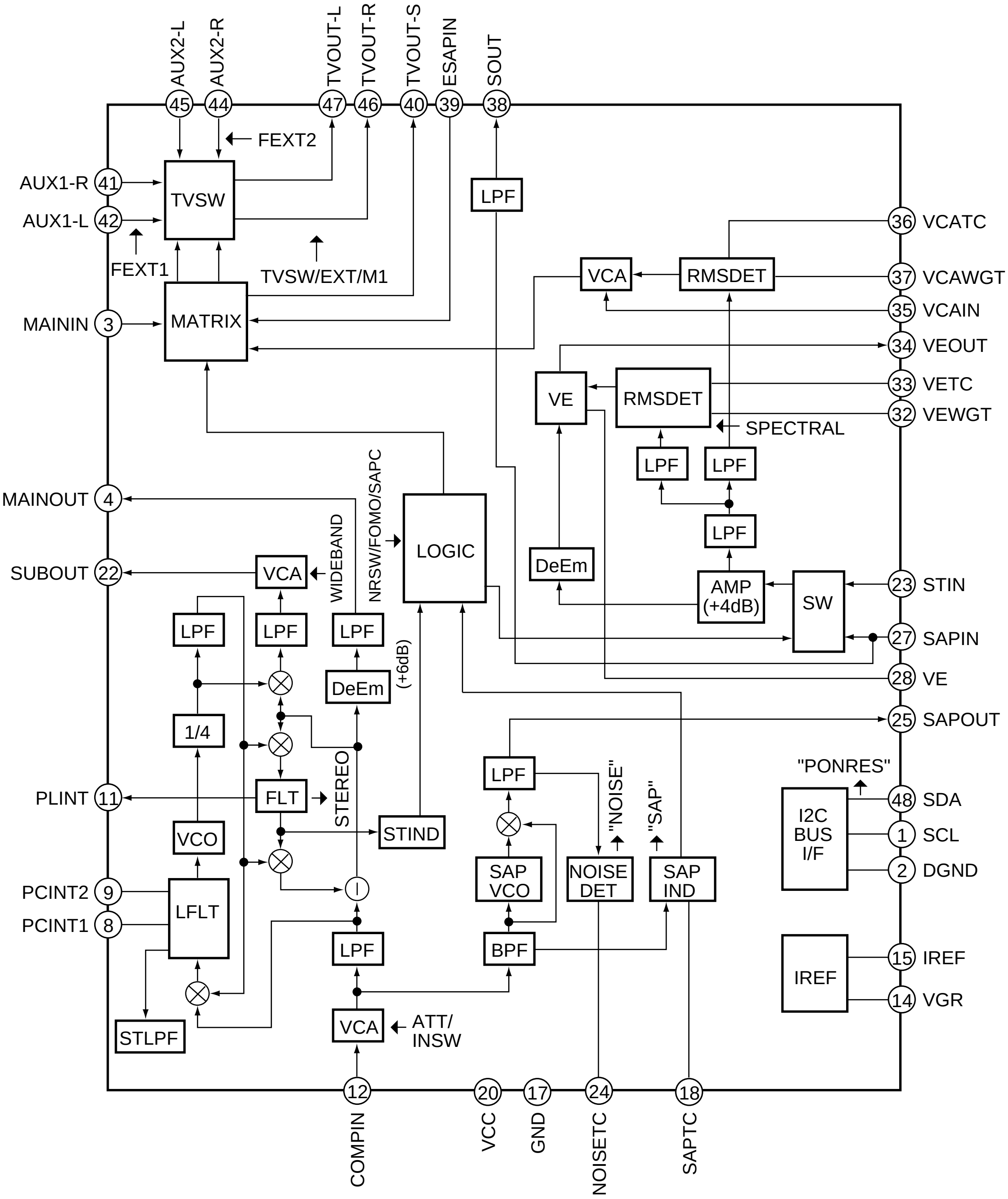
● Pin Function

No.	Pin Name	Pin Function
1	A0	User configurable chip selects
2	A1	
3	A2	
4	VSS	Ground
5	SDA	Serial Address / Data I/O
6	SCL	Serial clock
7	WP	Write protect input
8	VCC	+2.5V to 5.5V power supply

■ CXA2094Q (SIGNAL ASSY : IC2801)

• US Audio Multi-channel Decoder IC

● Block Diagram


AUX2-L
AUX2-R
TVOUT-L
TVOUT-R
TVOUT-S
ESAPIN
SOUT
45
44
47
46
40
39
38
FEXT2
AUX1-R
41
AUX1-L
42
TVSW
FEXT1
TVSW/EXT/M1
MAININ
3
MATRIX
LPF
36
VCATC
VCA
RMSDET
37
VCAWGT
35
VCAIN
34
VEOUT
VE
RMSDET
33
VETC
32
VEWGT
SPECTRAL
LPF
LPF
LPF
MAINOUT
4
LOGIC
NRSW/FOMO/SAPC
WIDEBAND
SUBOUT
22
VCA
LPF
LPF
LPF
DeEm
AMP
(+4dB)
SW
23
STIN
27
SAPIN
28
VE
(+6dB)
DeEm
1/4
25
SAPOUT
"PONRES"
STEREO
PLINT
11
FLT
LPF
"NOISE"
"SAP"
48
SDA
STIND
I2C
BUS
I/F
1
SCL
VCO
2
DGND
SAP
VCO
NOISE
DET
SAP
IND
PCINT2
9
PCINT1
8
LFLT
LPF
BPF
15
IREF
IREF
14
VGR
STLPF
VCA
ATT/
INSW
12
20
17
24
18
COMPIN
VCC
GND
NOISETC
SAPTC

● Pin Function

No.	Pin Name	I/O	Pin Function
1	SCL	I	Serial clock input
2	DGND	–	Digital ground
3	MAININ	I	L+R signal input from MAINOUT (pin 4)
4	MAINOUT	O	L+R signal output
5	NC	–	Non connection
6	NC	–	Non connection
7	NC	–	Non connection
8	PCINT1	–	Integrated pin of the PLL loop filter of the stereo block
9	PCINT2		
10	NC	–	Non connection
11	PLINT	–	Integrated pin of the loop filter of the pilot cancel circuit
12	COMPIN	I	Audio multiple signal input
13	NC	–	Non connection
14	VGR	O	Band gap reference output
15	IREF	–	Set the reference current of the filter and VCO
16	NC	–	Non connection
17	GND	–	Analog ground
18	SAPTC	–	Set the time constant of the SAP carrier detection circuit
19	NC	–	Non connection
20	VCC	–	Power supply
21	NC	–	Non connection
22	SUBOUT	O	L-R signal output
23	STIN	I	L-R signal input from SUBOUT (pin 22)
24	NOISETC	–	Set the time constant of the NOISE detection circuit
25	SAPOUT	O	FM detector output of SAP
26	NC	–	Non connection
27	SAPIN	I	SAP signal input from SAPOUT (pin 25)
28	VE	–	Integrated pin of the variable deemphasis
29	NC	–	Non connection
30	NC	–	Non connection
31	NC	–	Non connection
32	VEWGT	–	Weight the effective value detecting circuit of variable deemphasis control
33	VETC	–	Decides the return time constant of the effective value detecting circuit of variable deemphasis
34	VEOUT	O	Variable deemphasis output
35	VCAIN	I	VCA input Input variable deemphasis output of pin 34 via the coupling capacitor.
36	VCATC	–	Decides the return time constant of the effective value detecting circuit of VCA control
37	VCAWGT	–	Weight the effective value detecting circuit of VCA control
38	SOUT	O	Simple SAP output
39	ESAPIN	I	Signal input from SOUT (pin 38)
40	TVOUT-S	O	Back output pin, it outputs the monaural or simple SAP signal
41	AUX1-R	I	R ch external input 1
42	AUX1-L	I	L ch external input 1
43	NC	–	Non connection
44	AUX2-R	I	R ch external input 2
45	AUX2-L	I	L ch external input 2
46	TVOUT-R	O	TVOUT R ch output
47	TVOUT-L	O	TVOUT L ch output
48	SDA	I/O	Serial data input/output VIH > 3.0V , VIL < 1.5V

■ CM0010AF (SIGNAL ASSY : IC7703)

• Multi Screen Controller IC

● Pin Function

(1) A/D Inputs for Main Video Signals

No.	Pin Name	I/O	Pin Function
62	MYIN	I	Main video Y luminance input signal. Typical input level is 1.7Vp-p.
56	MYVREFH	I/O	ADC top reference voltage for main Y signal. Maximum value (2.726V in typical) of ADC dynamic range is set by self-bias.
64	MYVREFL	I/O	ADC bottom reference voltage for main Y signal. Minimum value (0.574V in typical) of ADC dynamic range is set by self-bias.
59	MYVREF16	I/O	Clamp output signal for main Y signal. Clamp level is set to 16 in typical, and Y input is clamped at this level.
60	MYVCLAMP	I/O	For Test (Operation Amplifier output of MYVREF16 pin)
58, 63	AVDD	–	ADC analog power supply voltage for Y signal (x2)
57, 61	AGND	–	ADC analog ground for Y signal (x2)
53	MUIN	I	Sub video V chrominance input signal. Typical input level is 1.7Vp-p.
47	MVIN	I	Sub video U chrominance input signal. Typical input level is 1.7Vp-p.
45	MCVREFH	I/O	ADC top reference signal for sub UV signals.
55	MCVREFL	I/O	ADC bottom reference signal for sub UV signals.
50	MCVREF128	I/O	Clamp output signal for sub UV signals. Clamp level is set to 128 in typical, and UV inputs is clamped at this level.
51	MUCLAMP	I/O	For Test (Operation Amplifier output of MCVREF128 terminal)
49	MVCLAMP	I/O	For Test (Operation Amplifier output of MCVREF129 terminal)
48, 54	AVDD	–	ADC analog power supply voltage for UV signals (x2)
46, 52	AGND	–	ADC analog ground for UV signals (x2)

(2) A/D Inputs for Sub Video Signals

No.	Pin Name	I/O	Pin Function
82	SYIN	I	Sub video Y luminance input signal
76	SYVREFH	I/O	ADC top reference voltage for sub Y signal. Maximum value (2.726V in typical) of ADC dynamic range is set by self-bias.
84	SYVREFL	I/O	ADC bottom reference voltage for sub Y signal. Maximum value (0.574V in typical) of ADC dynamic range is set by self-bias.
79	SYVREF16	I/O	Clamp output signal for sub Y signal. Clamp level is set to 16 in typical, and Y input is clamped at this level.
80	SYCLAMP	–	For Test (Operation Amplifier output of SYVREF16 terminal).
78. 83	AVDD	–	ADC analog power supply voltage for Y signal (x2)
77, 81	AGND	–	ADC analog ground for Y signal (x2)
73	SUIN	I	Sub video U chrominance input signal. Typical input level is 2.0Vp-p.
67	SVIN	I	Sub video V chrominance input signal. Typical input level is 1.7Vp-p.
65	SCVREFH	I/O	ADC top reference signal for sub UV signals
75	SCVREFL	I/O	ADC bottom reference signal for sub UV signals
70	SCVREF128	I/O	Clamp output signal for sub UV signals. Clamp level is set to 128 in typical and UV inputs is clamped at this level.
71	SUCLAMP	I/O	For Test (Operation Amplifier output of MCVREF128 terminal)
69	SVCLAMP	I/O	For Test (Operation Amplifier output of MCVREF128 terminal)
68, 74	AVDD	–	ADC analog power supply voltage for UV signals (x2)
66, 72	AGND	–	ADC analog ground for UV signals (x2)

(3) Main PLL

No.	Pin Name	I/O	Pin Function
120	MHS	I	Main horizontal synchronous input, it inputs NTSC 15.75Hz signal.
121	MCPOUT1	O	Charge pump output, it connects to MVCOIN1 pin through external loop filter.
122	MVCOIN1	I	VCO voltage input
123	MLPFGND	–	Ground for the external loop filter
125	MPLLVDD1	–	Power supply voltage for PLL, it connects to digital power supply voltage.
124	MPLLGND1	–	Ground for PLL, it connects to digital ground.
119	MVS	I	Main vertical synchronous input
131	FB1	O	Divider output of PLL1, it outputs a divided signal in 1820 and is available if constructing the external PLL.
126	MRBIAS	I	Bias setting pin for main VCO (for test), it always sets to open.
127	MBP	O	Bias measuring pin for test
128	MBN	O	Bias measuring pin for test

(4) Sub PLL

No.	Pin Name	I/O	Pin Function
117	SHS	I	Sub horizontal synchronous input
108	SCPOUT	O	Charge pump output, it connects to SVCOIN pin through the external loop filter.
109	SVCOIN	I	VCO voltage input
110	SLPFGND	–	Ground for the external loop filter
112	SPLLVDD	–	Power voltage for PLL, it connects to digital power voltage.
111	SPLLGND	–	Ground for PLL, it connects to digital ground.
116	SVS	I	Sub vertical synchronous input
107	FB3	O	Divider output for PLL3, it outputs a divided signal in 1820 and is available if constructing the external PLL.
113	SRBIAS	I	Bias setting pin for sub VCO (for test), it always sets to open.
114	SBP	O	Bias measuring pin for test
115	SBN	O	Bias measuring pin for test

(5) Image D/A output

No.	Pin Name	I/O	Pin Function
40	YOUT	O	Luminance (Y) output signal. It is current-type output and converts to the voltage by connecting the resistance between YOUT and AGND.
38	UOUT	O	Chrominance (U) output signal. It is current-type output and converts to the voltage by connecting the resistance between YOUT and AGND.
36	VOUT	O	Chrominance (V) output signal. It is current-type output and converts to the voltage by connecting the resistance between YOUT and AGND.
22	NHSO	O	Horizontal synchronous output signal
23	NVSO	O	Vertical synchronous output signal
24	NBLANK	O	Video blanking output signal, it indicates the active period of video output signal.
44	VREF	I	Reference voltage input, it inputs 1V in typical.
43	VG	O	The capacitance pin compensating the gate voltage for current cell, it connects the 0.1µF between VG and AGND.
42	FSADJ	I/O	The resistance pin setting the maximum amplitude, it sets a full scale voltage for the DAC by connecting the external resistance.
37, 41	AVDD	–	Analog power supply voltage for DAC (x2)
35, 39	AGND	–	Analog ground for DAC (x2)

(6) DRAM

No.	Pin Name	I/O	Pin Function
144-145, 147-149, 151,152, 156,157	ADD [8:0]	O	9 bit DRAM address bus
2-4,158, 160,161, 163-165, 167,168, 170-172, 175,176	DAT [15:0]	I/O	16 bit DRAM data bus
139	NRAS	O	Row address strobe output signal
140	NCAS	O	Column address strobe output signal
141	NWE	O	Write enable output signal
142	NOE	O	Output enable signal

(7) I^2C Bus

No.	Pin Name	I/O	Pin Function
137	AS	I	Select pin for I^2C slave address. 0 selects "2C", 1 selects "2E".
135	SDA	I/O	Serial data output signal, it includes ACK signal.
136	SCL	I	Serial clock input signal

(8) Digital Input

No.	Pin Name	I/O	Pin Function
8-15	DY [7:0]	I	Digital Y inputs
25-32	DC [7:0]	I	Digital UV inputs
16	MCLK	I/O	Main 8fsc clock input/output signal
17	SCLK	I/O	Sub 8fsc clock input/output signal
18	MLOP1	O	Main ADC (Y) clamp pulse output signal, it is available for the clamp pulse of the external ADC.
19	MLOP2	O	Main ADC (UV) clamp pulse output signal, it is available for the clamp pulse of the external ADC.
20	SLOP1	O	Sub ADC (Y) clamp pulse output signal
21	SLOP2	O	Sub ADC (UV) clamp pulse output signal

(9) Test

No.	Pin Name	I/O	Pin Function
88-92	TMODE [4:0]	I	Test mode pins, it is always set to Low.
94-101	TDO [7:0]	I/O	8 bit digital output signals/digital input signals for DAC
7	SCANEN	I	Scan test enable signal, it is always set to Low or Open.
106	SYS_STOP	I	System stopping pins except PLL, it is always set to Low.
129	VCOREN	I	VCO bias ON/OFF control pins, it is always set to Low.
130	DEVSEL	I	VCO clock divider ON/OFF control pins, it is always set to Low.

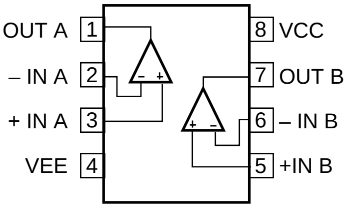
(10) Others

No.	Pin Name	I/O	Pin Function
134	NRST	I	System reset input signal
5,86,87, 105,132, 133,143, 150,159, 166,173, 174	SYSVDD	–	3.3V power supply voltage
1,6,33,34, 93,102, 103,104, 118,138, 146,153, 154,155, 162,169	SYSGND	–	Digital ground (GND)

■ TK15420M (SIGNAL ASSY : IC7102, IC7302, IC7502) (SUB VIDEO ASSY : IC3002)

• 75ohm Video Driver IC

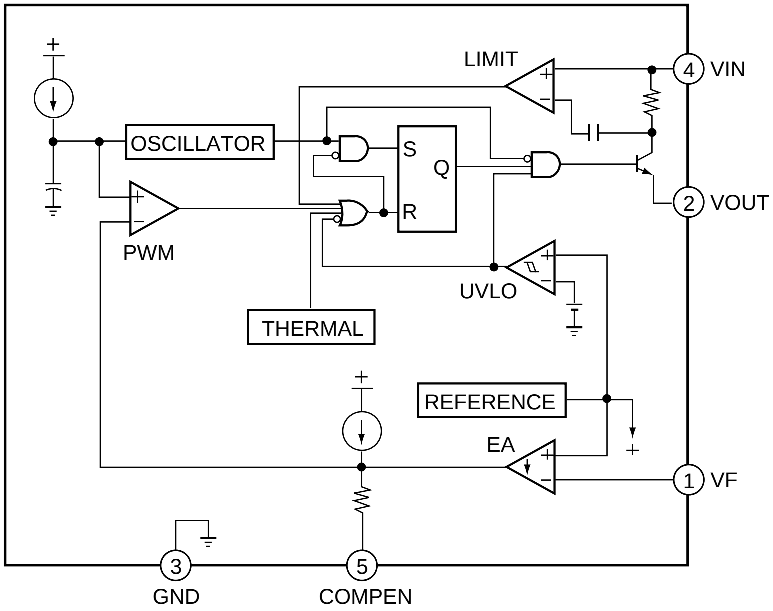
● Pin Assignment (Top view)


OUT A 1
– IN A 2
+ IN A 3
VEE 4
8 VCC
7 OUT B
6 – IN B
5 +IN B
– +
+ –

■ MC33167TV (POWER SUPPLY ASSY : IC204)

• Switching Power Supply IC

● Block Diagram

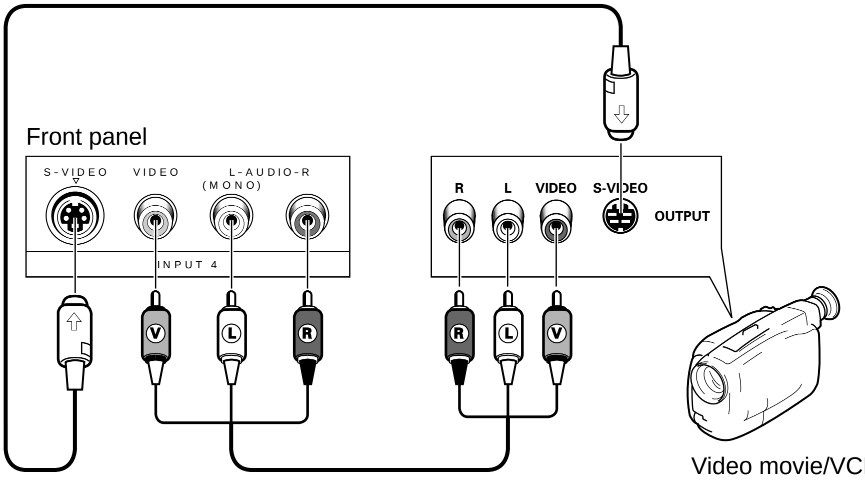

LIMIT
4 VIN
OSCILLATOR
S
Q
R
2 VOUT
PWM
UVLO
THERMAL
REFERENCE
EA
1 VF
3 GND
5 COMPEN

● Pin Function

No.	Pin Name	Pin Function
1	VF	Voltage feedback input
2	VOUT	Switch output
3	GND	Ground
4	VIN	Input voltage / VCC
5	COMPEN	Compensation/Standby

7.3 EXPLANATION

■ CONNECTING VIDEO/AUDIO EQUIPMENT



INPUT jacks

There are 4 sets of inputs for VCR and DVD/LD players. Use RCA-type pin plug cords (the same as those used in Hi-Fi systems) for connections. When the audio source to be connected is mono, connect the source to the L-(MONO) jack.

MONITOR OUTPUT jacks

These are used for connecting the monitor to a VCR for recording, or for linking it to another monitor. These jacks output the video and audio signals of the source currently selected by the INPUT SELECT. Connect these output jacks to your VCR's inputs. Connect the VCR's outputs to the monitor's VIDEO inputs.

S-VIDEO INPUT jacks

- Inputs signals from a DVD/LD player that has an S-VIDEO output jack.
- When the signal input from the S-VIDEO INPUT jack is output from the MONITOR OUTPUT jack, the output signal will be a composite of Y and C.

COMPONENT VIDEO INPUT jack

Inputs three signals – Y, P_B (C_B) and P_R (C_R) – output from DVD players and the like.

Input formats in which images can be received.

	Format	Horizontal frequency	Vertical frequency
DVD player, etc.	480 i	15.734 kHz	60 Hz
	480 p	31.468 kHz	60 Hz
Digital tuner, etc.	1080 i	33.75 kHz	60 Hz
	480 p	31.468 kHz	60 Hz

RGB INPUT jack

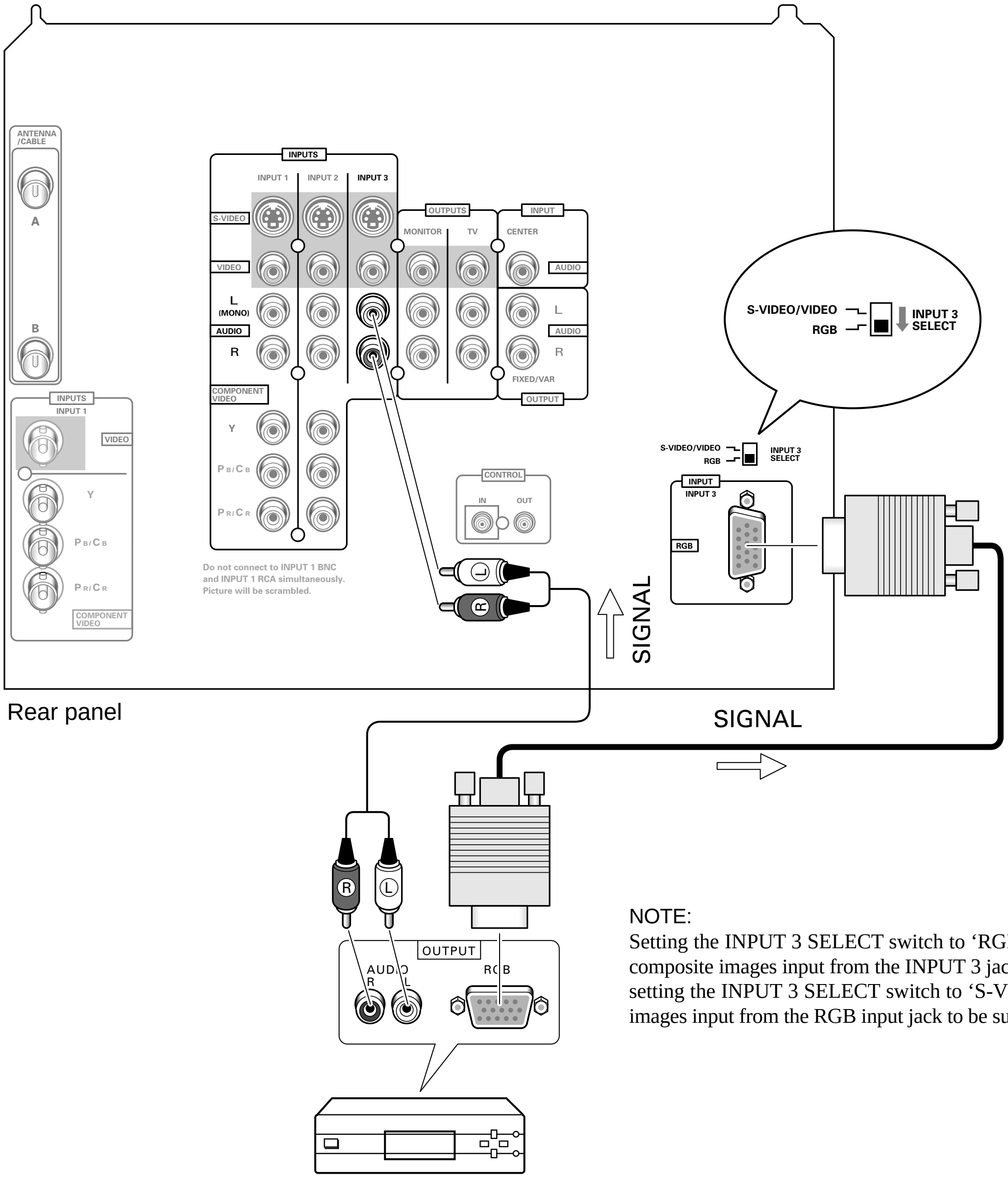
Inputs five signals – R, G, B, H and V – output from digital tuners and the like.

Input format in which images can be received.

	Format	Horizontal frequency	Vertical frequency
Digital tuner	1080 i	33.75 kHz	60 Hz

NOTES:

- SPLIT screen, FREEZE screen and SEARCH screen functions cannot be used when 1080i or 480p component signals are input.
- Signals from MONITOR OUTPUT jacks will not be output when component signals or RGB signals are input.
- The RGB input jack is designed for use in connecting a digital tuner with RGB signal output, and it should accordingly never be used for connecting to a personal computer or other device.

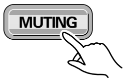

ANTENNA /CABLE
A
B
INPUTS
INPUT 1
VIDEO
Y
PB/CB
PR/CR
COMPONENT VIDEO
INPUTS
INPUT 1
INPUT 2
INPUT 3
S-VIDEO
VIDEO
L (MONO)
AUDIO
R
COMPONENT VIDEO
Y
PB/CB
PR/CR
OUTPUTS
MONITOR
TV
INPUT
CENTER
AUDIO
L
AUDIO
R
FIXED/VAR
OUTPUT
CONTROL
IN
OUT
Do not connect to INPUT 1 BNC and INPUT 1 RCA simultaneously. Picture will be scrambled.
S-VIDEO/VIDEO
RGB
INPUT 3 SELECT
INPUT
INPUT 3
RGB
SIGNAL
Rear panel
SIGNAL
R
L
OUTPUT
AUDIO
R
L
RGB
Digital tuner

NOTE:
Setting the INPUT 3 SELECT switch to ‘RGB’ will cause all S-Video and composite images input from the INPUT 3 jack to be suppressed. Similarly, setting the INPUT 3 SELECT switch to ‘S-VIDEO/VIDEO’ will cause all images input from the RGB input jack to be suppressed.

■ TO WATCH TV

To turn off the sound

Press the MUTING button.
When mute is turned on, a volume indicator will appear in red on the screen (and will disappear in a few seconds).



If the MUTING button is pressed while a closed caption signal is being received, CC/TEXT will be displayed.
Press MUTING again to return to the previous volume level.

Auto power off function

If the monitor is receiving no input signals in TV mode, its power will turn off (go on standby) after some time has passed.

■ PROGRAM BLOCK (V. CHIP) FUNCTION

Since laws have been passed in the United States requiring a way of blocking undesirable programming, the V-chip has become a required component in television sets. The V-chip is a computer chip which decodes signals added to broadcast signals transmitted by television broadcasters. These signals are classified by programming content (e.g., amount of violence or sexual content) and age, and viewers may specify settings which block certain types of programming.
Program blocking may be set to a specific level judged by parents to be undesirable for children depending on their age and the content of the programming in question. The V-chip makes it impossible for such children to view programs with ratings exceeding the specified level.

The V-chip uses the following rating system.

<U.S.A. RATING SYSTEM>

MPAA RATING

RATING		
Age-Base	G	GENERAL AUDIENCES. All ages admitted.
	PG	PARENTAL GUIDANCE SUGGESTED. Some material may not be suitable for children.
	PG-13	PARENTAL STRONGLY CAUTIONED. Some material may be inappropriate for children under 13.
	R	RESTRICTED. Under 17 requires accompanying parent or adult guardian.
	NC-17	NO ONE 17 AND UNDER ADMITTED.
	X	X Rating is an older rating that is the same as NC-17 and may be encoded on the data of older movie.
	NR	NOT RATED

TV PARENTAL GUIDELINES

RATING		Description and Content Themes				
		FV	D	L	S	V
Age-Base	TV-Y	–	–	–	–	–
	TV-Y7	○	–	–	–	–
	TV-G	–	–	–	–	–
	TV-PG	–	○	○	○	○
	TV-14	–	○	○	○	○
	TV-MA	–	–	○	○	○

FV: Fantasy Violence
D: Sexually Suggestive Dialog
L: Adult Language
S: Sexual Situations
V: Violence

TV-Y	All Children. This program is designed to be appropriate for all children.
TV-Y7	Directed to Older Children. This program is designed for children age 7 and above. Note: For those programs where fantasy violence may be more intense or more combative than other programs in this category, such programs will be designated TV-Y7-FV.
TV-G	General Audience. Most parents would find this program suitable for all ages.
TV-PG	Parental Guidance Suggested. This program contains material that parents may find unsuitable for younger children. The program contains one or more of the following: (D) Some suggestive dialogue (L) Infrequent coarse language (V) Moderate violence (S) Some sexual situations
TV-14	Parents Strongly Cautioned. This program contains some material that many parents would find unsuitable for children under 14 years of age. This program contains one or more of the following: (D) Intensely suggestive dialogue (L) Strong coarse language (S) Intense sexual situations (V) Intense violence
TV-MA	Mature Audience Only. This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. This program contains one or more of the following: (L) Crude indecent language (S) Explicit sexual activity (V) Graphic violence

<CANADIAN RATING SYSTEM>

CANADIAN ENGLISH LANGUAGE RATING SYSTEM

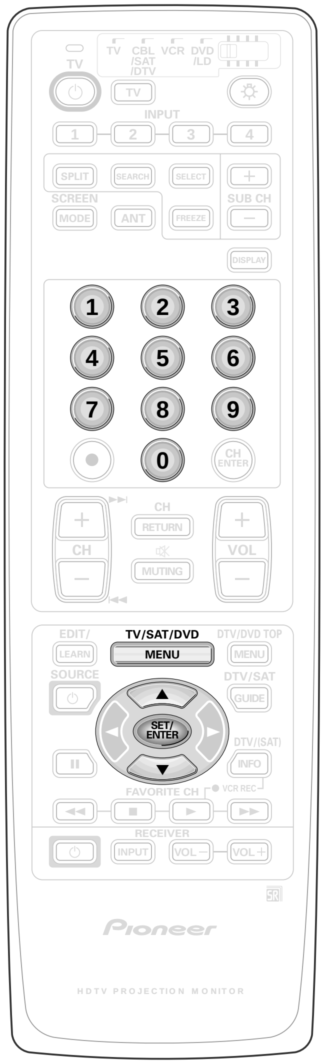
RATING		
Age-Base	C	Children
	C8+	Children 8 years and older
	G	General programming, suitable for all audiences
	PG	Parental Guidance
	14+	Viewers 14 years and older
	18+	Adult Programming

C	Programming interned for children under age 8 Careful attention is paid to themes, which could threaten children's sense of security and well-being. There will be no realistic scenes of violence. Depictions of aggressive behavior will be infrequent and limited to portrayals that are clearly imaginary, comedic or unrealistic in nature.
C8+	Programming generally considered acceptable for children 8 years and over to watch on their own Violence will not be portrayed as the preferred, acceptable, or only way to resolve conflict; or encourage children to imitate dangerous acts which they may see on television. Any realistic depictions of violence will be infrequent, discreet, of low intensity and will show the consequences of the acts.
G	General Audience Will contain very little violence, either physical or verbal or emotional. Will be sensitive to themes which could frighten a younger child, will not depict realistic scenes of violence which minimize or gloss over the effects of violent acts.
PG	Parental Guidance Programming intended for a general audience but which may not be suitable for younger children. Parents may consider some content inappropriate for unsupervised viewing by children aged 8-13.
14+	Programming contains themes or content which may not be suitable for viewers under the age of 14 Parents are strongly cautioned to exercise discretion in permitting viewing by pre-teens and early teens.
18+	Adult May contain violence integral to the development of the plot, character or theme, intended for adult audiences.

CANADIAN FRENCH LANGUAGE RATING SYSTEM

RATING		
Age-Base	G	General
	8+	Children 8 years and older
	13+	Viewers 13 years and older
	16+	Viewers 16 years and older
	18+	For Adults

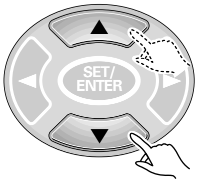
G	General Programming intended for audience of all ages. Contains no violence, or the violence it contains is minimal or is depicted appropriately with humour or caricature or in an unrealistic manner.
8+ (8 ans+)	8+ General – Not recommended for young children Programming intended for a broad audience but contains light or occasional violence that could disturb young children. Viewing with an adult is therefore recommended for young children (under the age of 8) who cannot differentiate between real and imaginary portrayals.
13+ (13 ans+)	Programming may not be suitable for children under the age of 13 Contains either a few violent scenes or one or more sufficiently violent scenes to affect them. Viewing with an adult is therefore strongly recommended for children under 13.
16+ (16 ans+)	Programming is not suitable for children under the age of 16 Contains frequent scenes of violence or intense violence.
18+ (18 ans+)	Programming restricted to adults Contains constant violence or scenes of extreme violence.

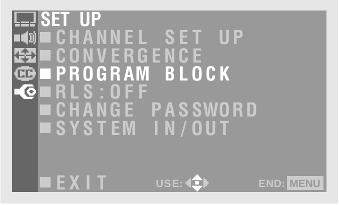

TV
TV CBL/SAT/DTV VCR DVD/LD
INPUT
SPLIT SEARCH SELECT
SCREEN
SUB CH
MODE ANT FREEZE
DISPLAY
1 2 3 4 5 6 7 8 9 0
CH ENTER
CH
RETURN
MUTING
VOL
EDIT/LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ENTER
DTV/(SAT) INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT VOL− VOL+
Pioneer
HDTV PROJECTION MONITOR

• SETTING THE PROGRAM BLOCKING LEVEL

1. Press MENU and select SET UP by using the ▲ or ▼ button and then pressing SET/ENTER.

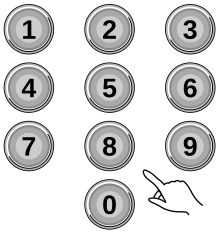
2. Select PROGRAM BLOCK in the same way.

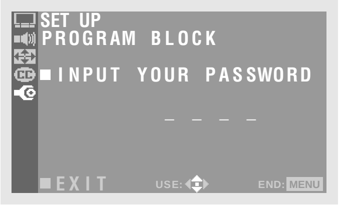




SET UP
■CHANNEL SET UP
■CONVERGENCE
■PROGRAM BLOCK
■RLS:OFF
■CHANGE PASSWORD
■SYSTEM IN/OUT
■EXIT USE: END: MENU

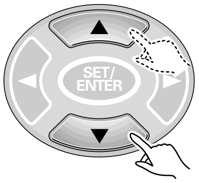
3. Enter a password.
   - Press numeric buttons '0' through '9' to enter a four-digit password.
   - If the password has not been changed as described in Changing Password, enter the default password of '1234'.
   - If you wish to change the password (recommended), Changing Password for instructions on how to do so.

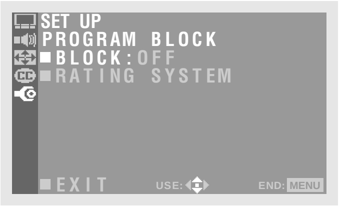

1 2 3 4 5 6 7 8 9 0



SET UP
PROGRAM BLOCK
■INPUT YOUR PASSWORD
_ _ _ _
■EXIT USE: END: MENU

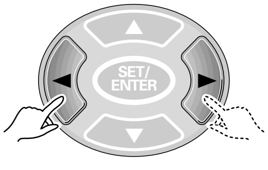
4. Select BLOCK .

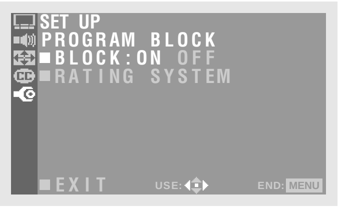




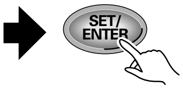
SET UP
PROGRAM BLOCK
■BLOCK:OFF
■RATING SYSTEM
■EXIT USE: END: MENU

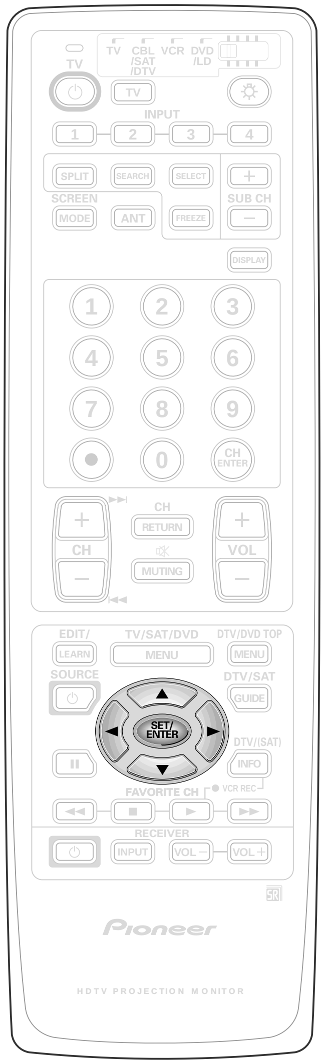
5. Set BLOCK to ON.





SET UP
PROGRAM BLOCK
■BLOCK:ON OFF
■RATING SYSTEM
■EXIT USE: END: MENU

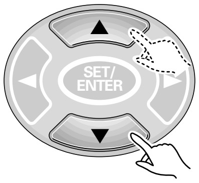


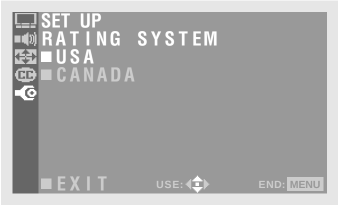

TV
TV CBL/SAT/DTV VCR DVD/LD
TV
INPUT
1 2 3 4
SPLIT SEARCH SELECT
SCREEN
MODE ANT FREEZE
SUB CH
DISPLAY
1 2 3 4 5 6 7 8 9 ● 0 CH ENTER
CH
RETURN
MUTING
VOL
EDIT/LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ENTER
DTV/(SAT) INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT VOL– VOL+
Pioneer
HDTV PROJECTION MONITOR

NOTE:

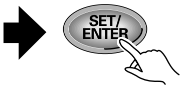
- Blocking programming with a low rating will cause all programming with a higher rating also to be blocked.
- The 'NR' (not rated) MPAA RATING may be set to 'View' or 'Block' without regard to other ratings.

6. Select U.S.A. RATING SYSTEM or CANADIAN RATING SYSTEM .



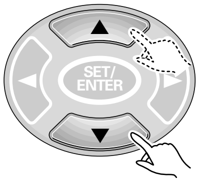


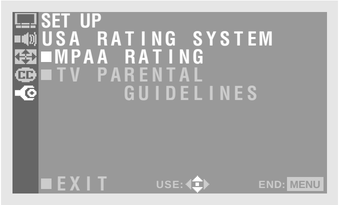
```
SET UP
RATING SYSTEM
■USA
■CANADA
■EXIT          USE:        END: MENU
```



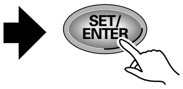
7. If you selected U.S.A. RATING SYSTEM .

Select MPAA RATING or TV PARENTAL GUIDELINES .

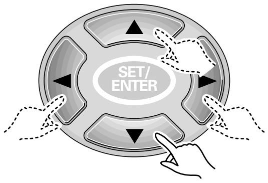


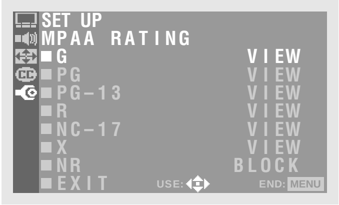


```
SET UP
USA RATING SYSTEM
■MPAA RATING
■TV PARENTAL
     GUIDELINES
■EXIT          USE:        END: MENU
```

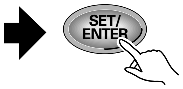


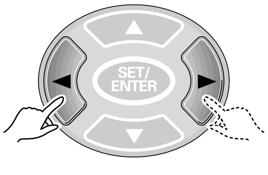
8. Select and then confirm the rank of the MPAA RATING.

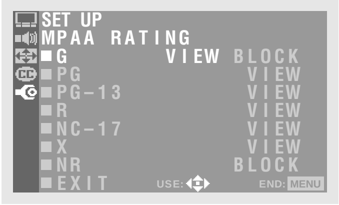




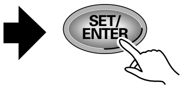
```
SET UP
MPAA RATING
■G                  VIEW
■PG                 VIEW
■PG-13              VIEW
■R                  VIEW
■NC-17              VIEW
■X                  VIEW
■NR                BLOCK
■EXIT          USE:        END: MENU
```



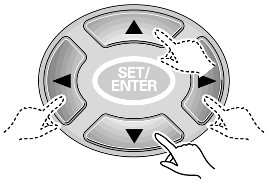


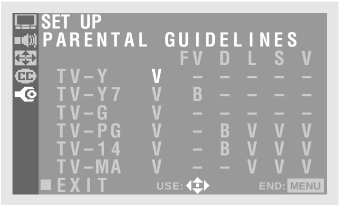


```
SET UP
MPAA RATING
■G             VIEW BLOCK
■PG                 VIEW
■PG-13              VIEW
■R                  VIEW
■NC-17              VIEW
■X                  VIEW
■NR                BLOCK
■EXIT          USE:        END: MENU
```

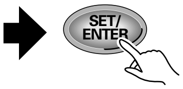


9. Select and confirm the rank of the TV PARENTAL GUIDELINES.

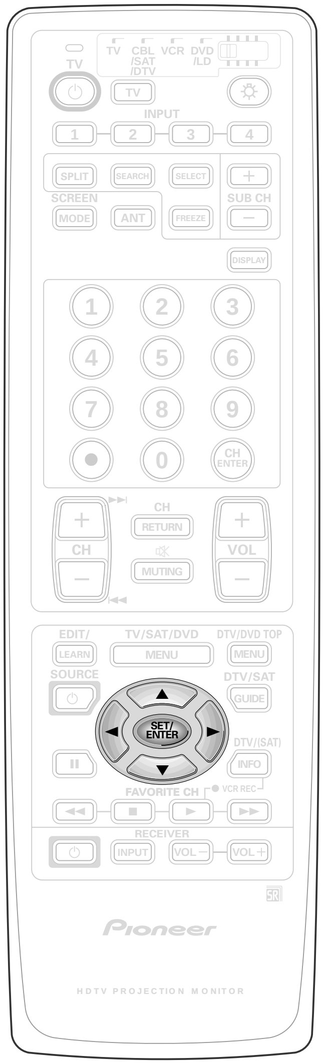




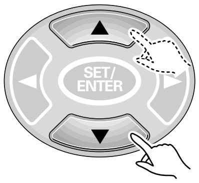
```
SET UP
PARENTAL GUIDELINES
                 FV D L S V
 TV-Y      V     -  - - - -
 TV-Y7     V     B  - - - -
 TV-G      V     -  - - - -
 TV-PG     V     -  B V V V
 TV-14     V     -  B V V V
 TV-MA     V     -  - V V V
■EXIT          USE:        END: MENU
```

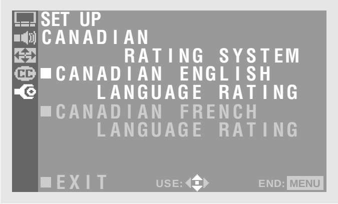


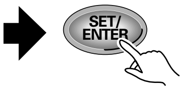
- Each time the SET/ENTER button is pressed, the setting will toggle between 'B' (Block) and 'V' (View).


TV
TV CBL /SAT /DTV VCR DVD /LD
TV
INPUT
1 2 3 4
SPLIT SEARCH SELECT
SCREEN MODE ANT FREEZE
SUB CH
DISPLAY
1 2 3 4 5 6 7 8 9 ● 0 CH ENTER
CH RETURN MUTING VOL
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/(SAT) INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT VOL– VOL+
SR
Pioneer
HDTV PROJECTION MONITOR

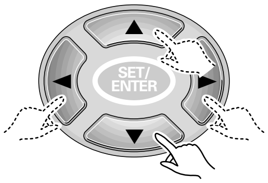
10. If you selected CANADIAN RATING SYSTEM in step 6, select ENGLISH or FRENCH .

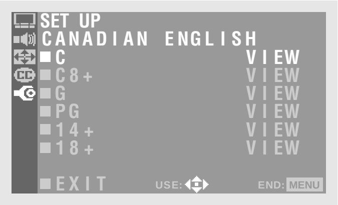


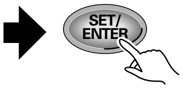

SET UP
CANADIAN
RATING SYSTEM
■CANADIAN ENGLISH
LANGUAGE RATING
■CANADIAN FRENCH
LANGUAGE RATING
■EXIT USE: END: MENU

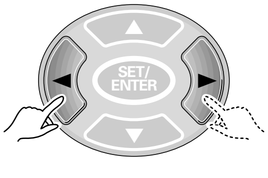


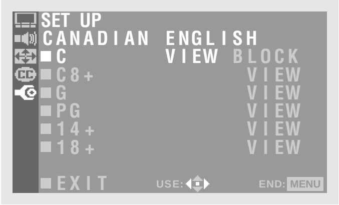
11. If you selected ENGLISH, select and then confirm the rank of the ENGLISH RATING (If you selected FRENCH go to step 12).

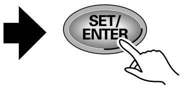



SET UP
CANADIAN ENGLISH
■C VIEW
■C8+ VIEW
■G VIEW
■PG VIEW
■14+ VIEW
■18+ VIEW
■EXIT USE: END: MENU



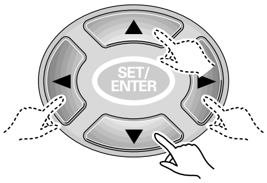


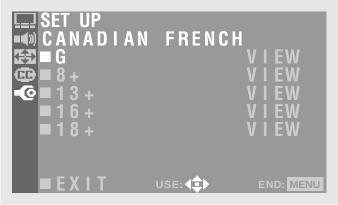

SET UP
CANADIAN ENGLISH
■C VIEW BLOCK
■C8+ VIEW
■G VIEW
■PG VIEW
■14+ VIEW
■18+ VIEW
■EXIT USE: END: MENU

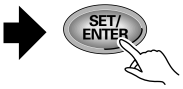


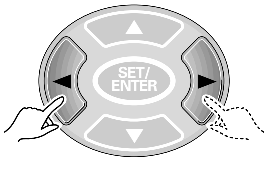
Go to step 13.

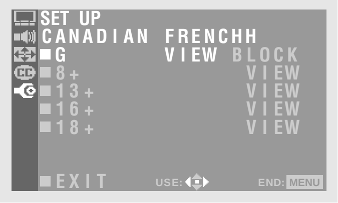
12. Select and then confirm the rank of the FRENCH RATING.

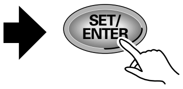



SET UP
CANADIAN FRENCH
■G VIEW
■8+ VIEW
■13+ VIEW
■16+ VIEW
■18+ VIEW
■EXIT USE: END: MENU

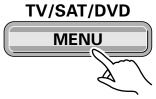





SET UP
CANADIAN FRENCHH
■G VIEW BLOCK
■8+ VIEW
■13+ VIEW
■16+ VIEW
■18+ VIEW
■EXIT USE: END: MENU

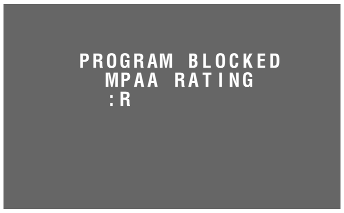


13. After setting, press MENU to turn the menu off.


TV/SAT/DVD
MENU

• HOW TO REMOVE BLOCKING FROM A PROGRAM IN PROGRESS

If you choose a program that has a rating higher than your program blocking rating, the picture and sound will cut off and an enter password screen will appear.



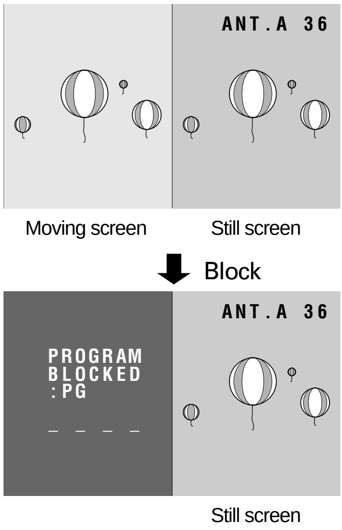
PROGRAM BLOCKED
MPAA RATING
:R

If you enter your password the blocking will be removed for this viewing only.

NOTE:
If the monitor power is turn OFF then turned ON again, the Program Blocked screen will appear again and you'll need to re-enter the password to view the program.

• REMOVING BLOCKING IN MULTI-SCREEN MODE

- Just as in normal single-screen mode, programs are blocked in SEARCH screen mode, but blocking can be removed only from the Main picture.
  To remove blocking from Search picture screen, switch to the Main picture for that channel and then remove blocking.
- When viewing in FREEZE screen mode, only programming on the Moving screen to the left will be blocked and the programming on the Still screen to the right will be displayed as is.



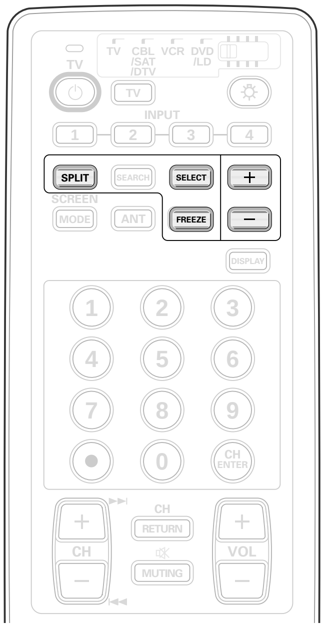
- When blocking is on during SEARCH screen mode, the screen at search picture side will be blacked out and won't display: "PROGRAM BLOCKED".

■ CHANGING PASSWORD

If you forget the password

When the message 'INPUT YOUR PASSWORD' in step 3 is displayed, press the RETURN button on the front panel and hold it down for 3 seconds or longer.
The password reverts to "1234".

■ MULTI-SCREEN FUNCTION



NOTES:

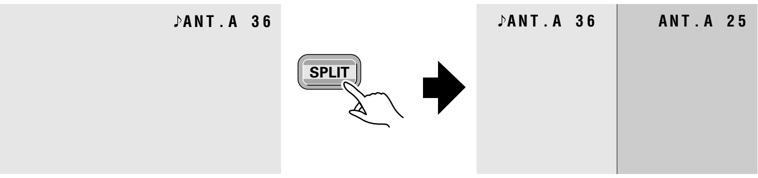
- The same image cannot be viewed as both the main picture and the sub-picture.
- Pressing the MENU button in SPLIT or FREEZE screen mode restores the screen display to normal and displays the menu on screen.
- These functions cannot be used when INPUT 1 or INPUT 2 is receiving a 1080i or 480p component signal (or the signals might not be received or noise might be generated).
- When a TV broadcast is being received, the screen on the right will not show the antenna B signal.
- RGB signals input from INPUT3 cannot be displayed.
- Continuous operation for extended periods in SPLIT or FREEZE screen mode may burn out the screen. We thus recommend that these modes only be used in conjunction with the normal screen mode.
- If the non-interlace signal for a TV game etc. is entered to the left screen during SPLIT screen mode, the right screen may be disrupted. If this occurs, use the right screen for TV game etc. entry.

• VIEWING TWO SCREENS (SPLIT screen)

The screen can be split vertically, making it possible to view different images on the left and right.

- The screen on which ♪ is displayed is the main picture, and the other screen is the sub-picture. Sound will be output for the main picture.
- Regular operations can be performed on the main picture.

Press the SPLIT button.



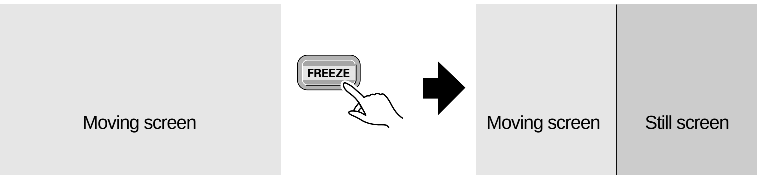
(Main picture) (Sub picture)

- When the SUB CH +,– buttons are pressed, the channel for the sub-picture will be changed.
- When the SELECT button is pressed, the ♪ will move to the other screen.
- The MONITOR OUTPUT terminal outputs the main picture signal.
- Pressing the SPLIT button again will restore the original screen.

• MAKING NOTES ON PROGRAM CONTENT (FREEZE screen)

The screen can be frozen, such as for taking down a recipe from a cooking program or an address for entering a quiz or the like.

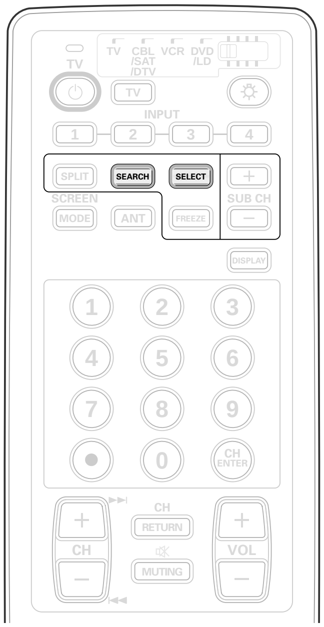
Press the FREEZE button.



- This function is operable only with the normal screen.
- Pressing the FREEZE button again will restore the original screen.

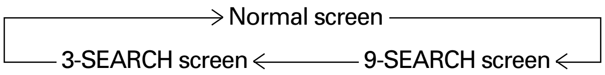
• SEARCHING FOR A PROGRAM ON A DIFFERENT CHANNEL (SEARCH screen)

The screen on the right side can be made into nine or three different screens, making it possible to search for programs or enjoy multiple images.

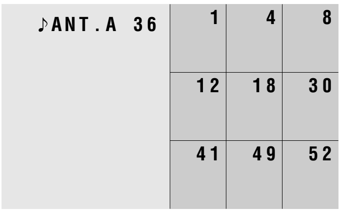

TV
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
INPUT
1
2
3
4
SPLIT
SEARCH
SELECT
SCREEN
MODE
ANT
FREEZE
SUB CH
DISPLAY
1
2
3
4
5
6
7
8
9
0
CH ENTER
CH
RETURN
CH
MUTING
VOL

Press the SEARCH button.

- Each time the SEARCH button is pressed, the screen mode changes in the following order.


Normal screen
3-SEARCH screen
9-SEARCH screen

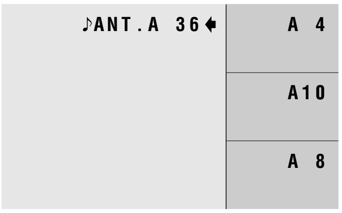
① 9-SEARCH screen


♪ANT.A 36
1
4
8
12
18
30
41
49
52

Main picture Search picture

- On the search picture, the antenna A preset channel will be displayed as a frozen image. If 9 or more channels have been preset, the screens will automatically be switched and displayed.
- The search picture cannot be operated.
- If the channel or input source is changed, SEARCH screen mode will turn off.

② 3-SEARCH screen


♪ANT.A 36
A 4
A10
A 8

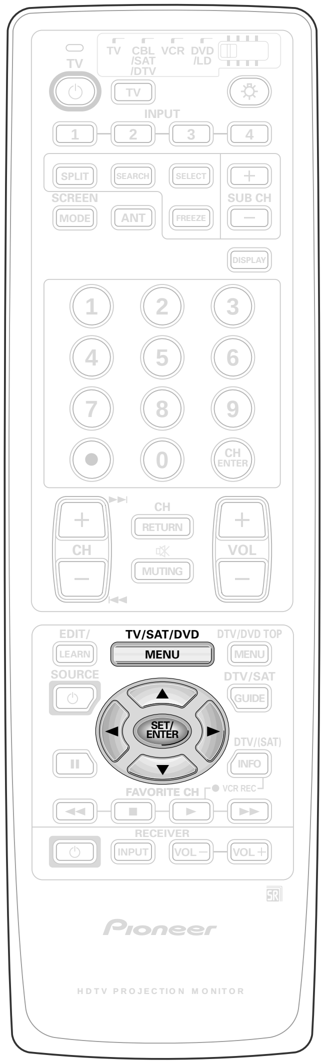
Main picture Search picture

- Press the SELECT button to select the image that you wish to switch the channel or input source to. You can operate the screen that is selected by the yellow arrow. (Use only the selector buttons, direct channel selection buttons if channel, antenna or CH +,– buttons.)
- Sound output is limited to the main picture.

- Pressing the MENU button in SEARCH screen mode restores the screen display to normal and displays the menu on screen.
- These functions cannot be used when INPUT 1 or INPUT 2 is receiving a 1080i or 480p component signal (or the signals might not be received or noise might be generated).
- RGB signals input from INPUT3 cannot be displayed.
- Continuous operation for extended periods in SEARCH screen mode may burn out the screen. We thus recommend that these modes only be used in conjunction with the normal screen mode.
- The only channels displayed on the SEARCH screen will be those with input signals input from antenna A. Antenna B channels cannot be displayed on this screen.
- If the non-interlace signal for a TV game etc. is entered to the left screen during 9-SEARCH screen or 3-SEARCH screen modes, the screen may be disrupted.

■ MULTI-POINT CONVERGENCE ADJUSTMENT

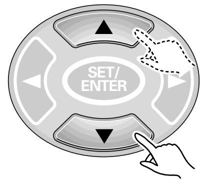
Convergence adjustment may be fined-tuned here.

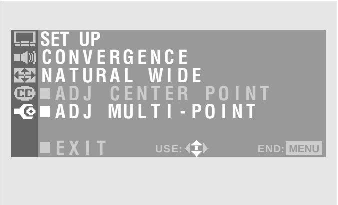

TV
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
INPUT
1
2
3
4
SPLIT
SEARCH
SELECT
SCREEN
MODE
ANT
FREEZE
SUB CH
DISPLAY
1
2
3
4
5
6
7
8
9
●
0
CH ENTER
CH
RETURN
CH
VOL
MUTING
EDIT/
LEARN
TV/SAT/DVD
MENU
DTV/DVD TOP
MENU
SOURCE
DTV/SAT
GUIDE
SET/ENTER
DTV/(SAT)
INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT
VOL−
VOL+
Pioneer
HDTV PROJECTION MONITOR

1. Press MENU and select SET UP by using the ▲ or ▼ button and then pressing SET/ENTER.

2. Adjust the center point convergence.

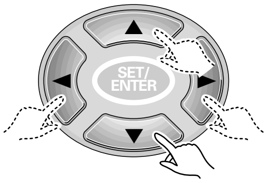
3. Select ADJ MULTI-POINT .

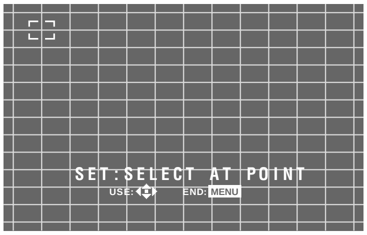




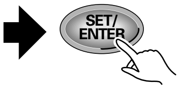
SET UP
CONVERGENCE
NATURAL WIDE
■ADJ CENTER POINT
■ADJ MULTI-POINT
■EXIT USE: END: MENU

4. Select the adjust point.

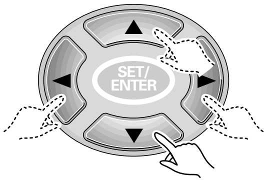


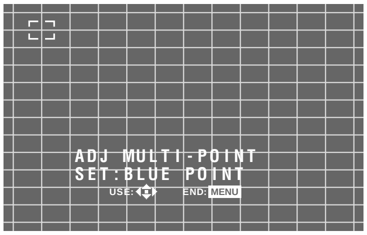


SET:SELECT AT POINT
USE: END: MENU

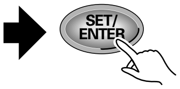


5. Adjust the red line.

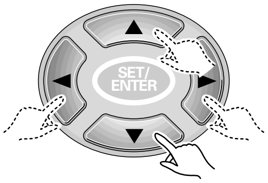


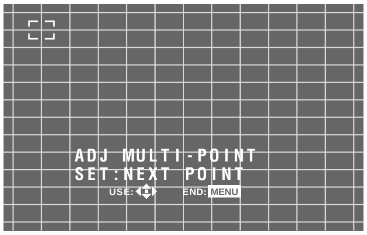


ADJ MULTI-POINT
SET:BLUE POINT
USE: END: MENU

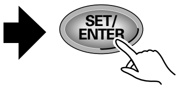


6. Adjust the blue line.



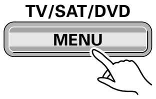


ADJ MULTI-POINT
SET:NEXT POINT
USE: END: MENU



- The brackets which shows the adjusting point will move in order. Move to the next point to be adjusted, and repeat steps 4 to 6.

7. After completing the convergence adjustment, press MENU to turn the menu off.


TV/SAT/DVD
MENU

NOTES:

- The number of adjustment points varies according to the screen mode. The cursor is partially invisible around the edge of the screen according to the screen mode.
- It is not possible to adjust all these points (points of change on the cross-hatch).
- Some of the cross-hatch lines are not straight, but this is not a malfunction. They are not always straight on a normal TV.

■ SPECIAL NOTES

● Picture Adjustments

MOVIE or GAME mode may not selected when receiving RGB input.

GAME mode setting:
- All signals output from the Projection Monitor will be unaffected. Only the original output signal is sent through the output jacks.

Picture Quality setting:
- The COLOR, TINT, and SHARPNESS settings may not be changed when receiving RGB input.
- When RLS is LVL1 or LVL 2, CONTRAST, BLACK LVL and COLOR cannot be adjusted.
- When picture quality has been adjusted, the user mode data will be overwritten with the new settings.

Other Picture Quality setting:
- Only the COLOR TEMP settings may be changed when receiving RGB input.

PURECINEMA adjustment:
- Normally, this function should be set to “HQ” (High Quality), however, occasionally this setting may cause slight syncopation problems with the audio track. If you are bothered by this, select “STD” (Standard) or “OFF”. If “OFF” is selected, normal progressive signal processing is performed.

● Sound Adjustments

BASS, TREBLE and BALANCE are SPEAKER mode settings, which can only be adjusted when mode is NORMAL.

Surround Mode setting:
- This function cannot be used when the SPEAKER mode is CENTER IN or when the SPEAKER mode is OFF and AUDIO OUT mode is FIXED.
- The surround effect cannot be obtained with mono sound.
- In some cases, the surround effect may be minimal.

● Connection with Receiver (1)

Speaker and AUDIO OUT Setting:
- After the speaker mode is set to CENTER IN, the volume of the center speaker should be controlled from this monitor.
- If AUDIO OUT is set to VAR and the sound is distorted, lower the Monitor volume.

● Connection with Receiver (2)

System Mode ON:
- The input cannot be switched even if you press the Input selector button of the remote control unit.
- On the sub-picture of a SPLIT screen, only the input signal from the antenna can be displayed.
- The SEARCH screen function will not be operable.
- No signal will be output from the AUDIO OUTPUT terminal.
- Setting SYSTEM MODE ON will cause RGB input signals to not be displayed.

● Changing Screen Mode

- When 1080i component signals or RGB signals are input, SCREEN MODE will be limited to FULL.

8. PANEL FACILITIES AND SPECIFICATIONS

A flip-down door conceals the INPUT 4 jacks. Push gently and release, to open the door. To close the door, lift it back up into place.

NOTE:
If you accidentally pull the door, it may not shut properly. Push the door back in to shut it.

① POWER STANDBY/ON indicators

red: STANDBY
green: ON

② ROOM LIGHT SENSOR (RLS)

Sensor to detect the room brightness.

③ MAIN POWER ⏀ (OFF/ON) button

If the button is OFF, the power of the monitor is shut off and ④ STANDBY/ON button on the receiver or TV power on the remote control will not function. Pressing the button again will turn the monitor ON and the monitor enters the standby mode. In the standby mode, you can turn on the monitor using the ④ STANDBY/ON button on the monitor or TV power on the remote control.

④ POWER (⏻ STANDBY/ON) button

Switches the monitor between on and standby (note that the monitor consumes a small amount of power (0.3 W) in standby mode.

⑤ INPUT SELECT button

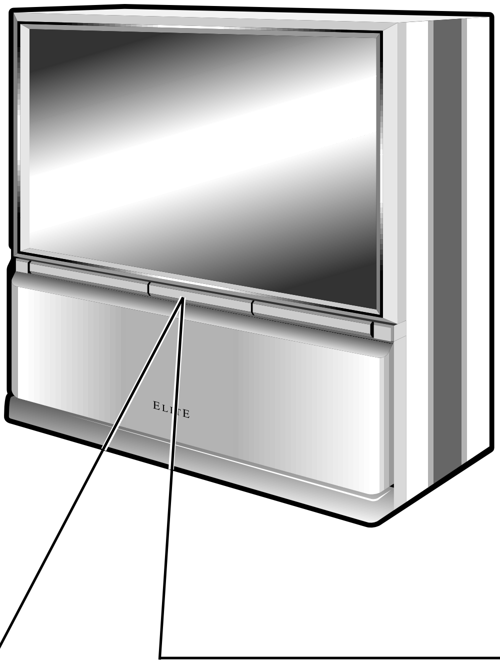
Press to select your program source. Each press of the INPUT SELECT button changes the selection to the next source.

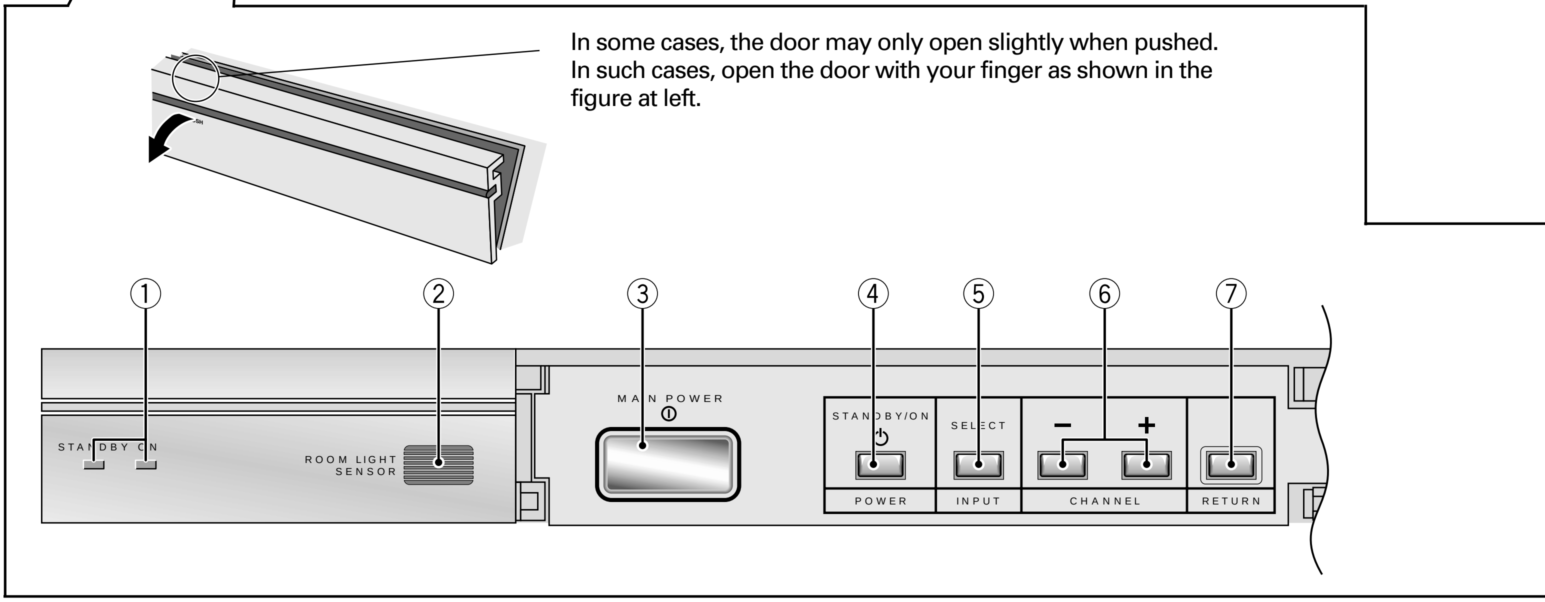
→ TV → INPUT 1 → INPUT 2 → INPUT 3 → INPUT 4 →

While the menu is displayed, it performs the same operation as the SET/ENTER button on the remote control.

⑥ CHANNEL buttons

Press plus (+) or minus (–) to tune to a higher or lower channel. Only the preset channels can be tuned in using these buttons.




In some cases, the door may only open slightly when pushed. In such cases, open the door with your finger as shown in the figure at left.

⑦ RETURN button

Press to set the Projection Monitor to its initial mode.

Initial mode

Input selector: Set to TV.
TV channel: Remains at the last channel set.
VOLUME: Remains at the last setting.
MUTING: OFF
PICTURE
  MODE: STD
  Parameters: Set to 0.
  3D Y/C LEVEL: 3
  3D NR LEVEL: 3
  COLOR TEMP: STD
  FLESH TONE: ON
  PURECINEMA: HQ
  BLK ENHANCE: ON
  SVM: HIGH
SOUND
  MTS: MAIN
  Parameters: Set to 0.
  SURROUND: OFF
  SUPER BASS: OFF
SCREEN
  MODE: NATURAL WIDE
  V. POSITION: Set to 0
CC: OFF
RLS: OFF
SYSTEM IN/OUT
  SPEAKER: NORMAL
  AUDIO OUT: FIXED
  SYSTEM MODE: OFF

- When this button is pressed while adjusting the MULTI-POINT convergence, the MULTI-POINT convergence returns to the initial mode.

⑧ VOLUME buttons

Press plus (+) button to increase the volume, press minus (–) button to decrease it.

⑨ INPUT 4 jacks

These inputs are for Video Movie and VCR. Use RCA-type pin plug cords (the same as those used in Hi-Fi systems) and S-VIDEO cords for connections. When the audio source to be connected is mono, connect the source to the L-(MONO) jack.

CAUTION:

Do not press any operation button on the Projection Monitor or the remote control unit while recording. Signals from the MONITOR OUTPUT jacks may be temporarily interrupted when a button is pressed.

ATTENTION

The Projection Monitor Receiver will not function properly in the following cases.

- An electrical discharge in the CRT.
- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

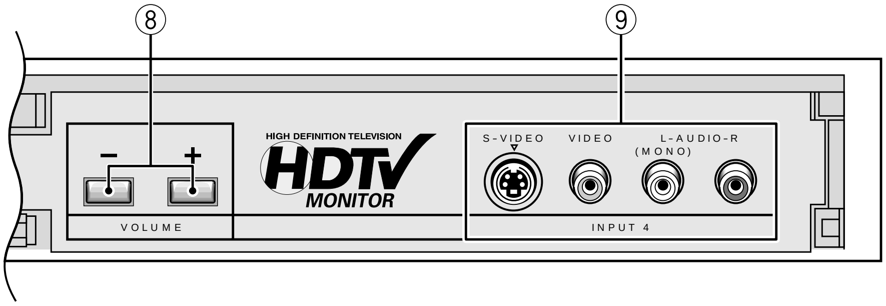
If the Projection Monitor does not operate properly, reset it as follows:

1. Turn off the power of the unit with the ③ MAIN POWER button.
2. After approximately 1 minute, turn on the power with ③ MAIN POWER button and ④ POWER (⏻ STANDBY/ON) button.

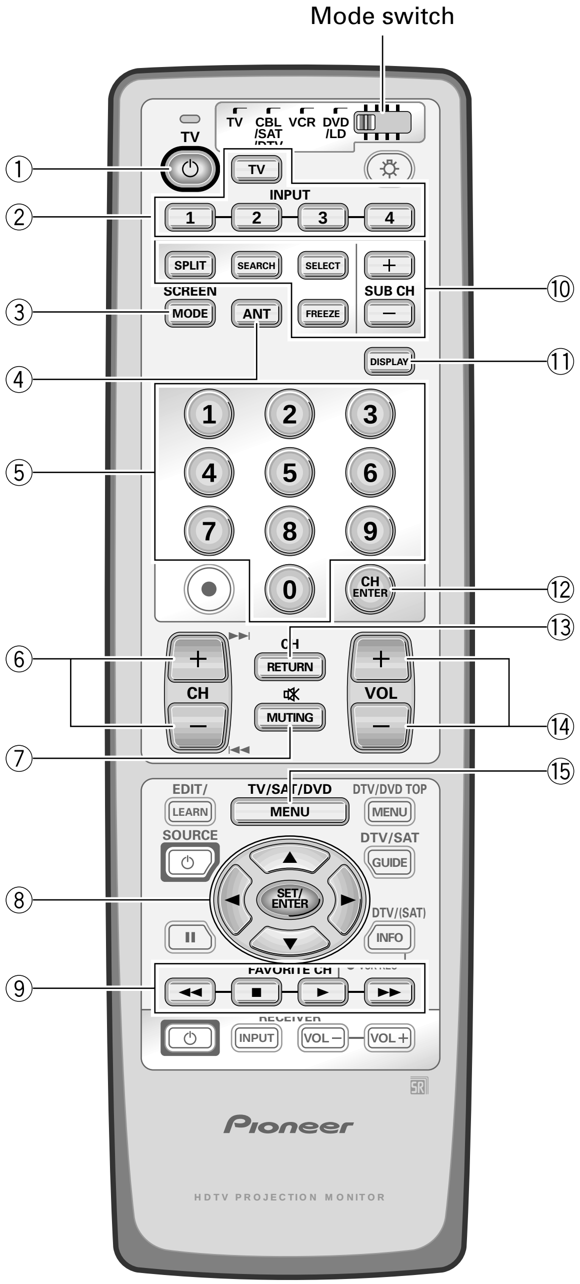
If the normal operation cannot be restored after the above treatment, immediately unplug the power cord and call your nearest PIONEER-authorized service center.

NOTES:

- On rare occasions, an electrical discharge may occur inside the CRT*. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The SPLIT screen and SEARCH screen functions will be cancelled automatically if an electrical discharge occurs when this function is engaged.
  *CRT: Cathode-ray Tube
- When an electrical discharge distorts the screen and the TV power has been automatically shut off, it can turn on.
  If you notice any abnormality of the screen, turn off the MAIN POWER button for a few minutes then turn it on.
  This is not a malfunction.



■ REMOTE CONTROL UNIT (AXD1458)


Mode switch
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
INPUT
1
2
3
4
SPLIT
SEARCH
SELECT
SUB CH
SCREEN MODE
ANT
FREEZE
DISPLAY
1
2
3
4
5
6
7
8
9
0
CH ENTER
CH
RETURN
VOL
MUTING
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/(SAT) INFO
FAVORITE CH
RECEIVER
INPUT
VOL –
VOL +
Pioneer
HDTV PROJECTION MONITOR
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮

Set the mode switch to TV.

① ⏻ TV Power button (STANDBY/ON)
Turns the power of the monitor on and off.

② INPUT Selector buttons (TV, INPUT 1 to INPUT 4)
Press the button to select the source you wish to watch. The screen will display your selection.

③ SCREEN MODE button
Press to select the SCREEN MODE.

④ ANT (antenna selector) button
Press to switch between ANTENNA-A and ANTENNA-B when you wish to watch TV.

⑤ Direct channel selection buttons
Press the button (or buttons) that corresponds to the channel that you wish to watch.

⑥ CH (channel) +, – button
Press plus (+) or minus (–) to tune in a higher or lower channel. Only the preset channels can be tuned in using these buttons.

⑦ MUTING button
Press to temporarily turn off the sound. Press again to return to the previous volume level.

⑧ Select/Adjust/Set buttons (SET/ENTER, ◄, ►, ▲, ▼)

◄, ►, ▲, ▼:	Press to select or adjust items on the menu screen.
SET/ENTER:	Press to activate the selected function.

⑨ FAVORITE CH buttons
These buttons call up the channels that have been assigned to them.

⑩ SPLIT/SEARCH screen buttons

SPLIT:	Press to turn the SPLIT screen function on and off.
SEARCH:	Press to select the SEARCH screen mode.
SELECT:	Selects the screen for switching the channel or input source.*
FREEZE:	When this button is pressed with the regular screen, the screen will change to the SPLIT screen and the picture at the time the button was pressed will become the sub-picture, displayed as a frozen image.
SUB CH +, –:	Used to switch the channel for the sub-picture of the SPLIT screen.

⑪ DISPLAY button
Press to display the input source, channel, setting and other screen indicators for a few seconds.

⑫ CH ENTER button
Fix the selected channel with the direct channel selection buttons.

⑬ CH RETURN (channel return) button
Press to switch between the current channel and the channel you were watching immediately before.

⑭ VOL (volume) +, – buttons
Press plus (+) button to increase the volume, press minus (–) button to decrease it.
Volume level will appear on the screen as numbers and a bar graph. The maximum volume level is "63".
The display will disappear from the screen after 2 seconds.

⑮ MENU button
Press to turn on the menu screen for use in function selection.
Press again to return to normal TV screen.

* With the 9-SEARCH screen, the search picture's input source and channel cannot be switched.

■ SPECIFICATIONS

Display and amplifier section

Reception system	American TV standard NTSC system
Screen size	64" (PRO-720HD) 58" (PRO-620HD) 53" (PRO-520HD)
CRT	7" High focus CRT x 3
Brightness (White peak)	360 Foot-Lambert (PRO-720HD) 380 Foot-Lambert (PRO-620HD) 450 Foot-Lambert (PRO-520HD) [White window signal input contrast Max.] without protective screen
Horizontal resolution	More than 1400 lines (PRO-720HD) More than 1250 lines (PRO-620HD) More than 1150 lines (PRO-520HD) [Input digital test pattern (1400 lines resolution)]
Input terminals	4 video inputs 4 S-VIDEO input jacks (Y/C separate INPUT) 2 COMPONENT VIDEO INPUT jacks (Y, PB, PR) 4 audio inputs CENTER INPUT jack Mini D-sub 15 pin INPUT jack (RGB) BNC VIDEO INPUT jack BNC COMPONENT VIDEO INPUT jack (Y, PB, PR)

NOTE:
INPUT 1 video and component video input can be input to both BNC and RCA type.

Output terminals	MONITOR, TV, AUDIO
Input terminal signal ratings	
Input signal	
Video signal:	
Composite and S-VIDEO (Y):	1.0 Vp-p (75 ohms load)
COMPONENT (Y):	1.0 Vp-p (75 ohms load)
(PB, PR):	0.7 Vp-p (75 ohms load)
Mini D-sub 15 pin (RGB):	0.7 Vp-p (75 ohms load)
Audio signal (including CENTER):	400mV rms
Input impedance	Video input: 75 ohms Audio input (including CENTER): 22 kilo-ohms or more
Input signal polarity (Video)	Synchronized negative
Output terminal signal ratings	
Output signal	Video signal: 1 Vp-p (75 ohms load) Audio signal: 500 mV rms (100 % modulation)
Output impedance	Video output: 75 ohms Audio output: Less than 1 kilo-ohms
Effective output	
Front both channels driven	10 W + 10 W (THD. 1 % 1 kHz, 8 ohms)
Built-in speaker system	16 cm (6-5/16 in) full range x 2

Tuner section

Circuit type	Video signal detection: PLL full synchronous detection PLL digital synthesizer system Audio multiplex: BTSC system
Reception channels	VHF; CH2~CH13, UHF; CH14~CH69 CATV (STANDARD, IRC or HRC) CATV 1-125 CH
Antenna terminals	Antenna terminal, 75 ohms UNBAL, F-type connector (VHF, UHF MIXED)

Electrical section, miscellaneous

Power requirements	120 V AC, 60 Hz
Power consumption	
At time of shipment	325 W, 600 VA (CSA)
External dimensions	
PRO-720HD	1510 (W) x 709 (D) x 1425 (H) mm 59-7/16 (W) x 27-29/32 (D) x 56-1/8 (H) inch
PRO-620HD	1378 (W) x 675 (D) x 1351 (H) mm 54-1/4 (W) x 26-9/16 (D) x 53-3/16 (H) inch
PRO-520HD	1268 (W) x 640 (D) x 1289 (H) mm 49-15/16 (W) x 25-3/16 (D) x 50-3/4 (H) inch
Weight of main unit	
PRO-720HD	160 kg (352 lb 13 oz)
PRO-620HD	138 kg (304 lb 5 oz)
PRO-520HD	124 kg (273 lb 7 oz)

Wireless remote control unit

Operation system	Infrared remote control system
Power source	Two DURACELL ®"AA" MN1500 1.5 V ALKALINE dry cell batteries
Dimensions	66 (W) x 24.6 (H) x 226.5 (D) mm 2-19/32 (W) x 31/32 (H) x 8-29/32 (D) inch
Weight	170 g (4 oz) (without batteries)

Accessories

Operating instructions	1
Warranty card	1
Remote control unit	1
DURACELL® "AA" MN1500 1.5V Alkaline dry cell batteries	2
Protective screen	1
Panel frame	2
Side frame cover	2
Frame cover	2
Panel frame attaching screw	10 (PRO-720HD, PRO-620HD) 6 (PRO-520HD)

NOTE:
Specifications and design are subject to possible modifications without notice due to improvements.

Pioneer sound.vision.soul

Service Manual

ORDER NO.
ARP3095

PROJECTION MONITOR RECEIVER

PRO-720HD
PRO-620HD
PRO-520HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	PRO-720HD	PRO-620HD	PRO-520HD		
KUXC/CA	○	○	○	AC120V	

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 6
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4. PCB CONNECTION DIAGRAM 112
5. PCB PARTS LIST 168

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

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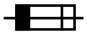
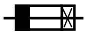
T – ZZY SEPT. 2001 Printed in Japan

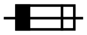
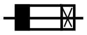
1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1.1 SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed :

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn.
   People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the while handling.
2. When service is required, even though the HDTV PROJECTION MONITOR an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing.
   Therefore, the following checks should be performed for the continued protection of the customer and service technician.

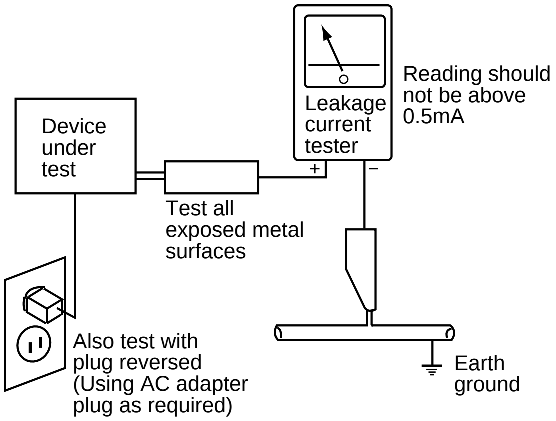
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Device under test
Leakage current tester
+
−
Reading should not be above 0.5mA
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture (video muting is being applied) when no signal is input, high voltage of this set during operation is less than 30.5kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.5kV in the status of the black picture when no signal is input.

To measure H. V. use a high impedance H. V. meter.

Connect (–) to earth and (+) to the FBT anode cable connector. (Refer to section "7.1.2 DISASSEMBLY".)

X-radiation

TUBE : The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube (CRT Service Assy R, G, B) used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See page 4). Accordingly, when the current in flowing to the picture tube (CRT Service Assy R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube (CRT Service Assy R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assy with the POWER SUPPLY Assy in the manner in which has been adjusted to perform normal operation.

1.2 PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

1.3 CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section (Power supply primary side)

1. The primary side of the AC IN assy
2. AC power cord
3. The primary side of the POWER SUPPLY assy

☐ : Part is the charged section.
▨ : Part is the high voltage generating points other than the charged section.

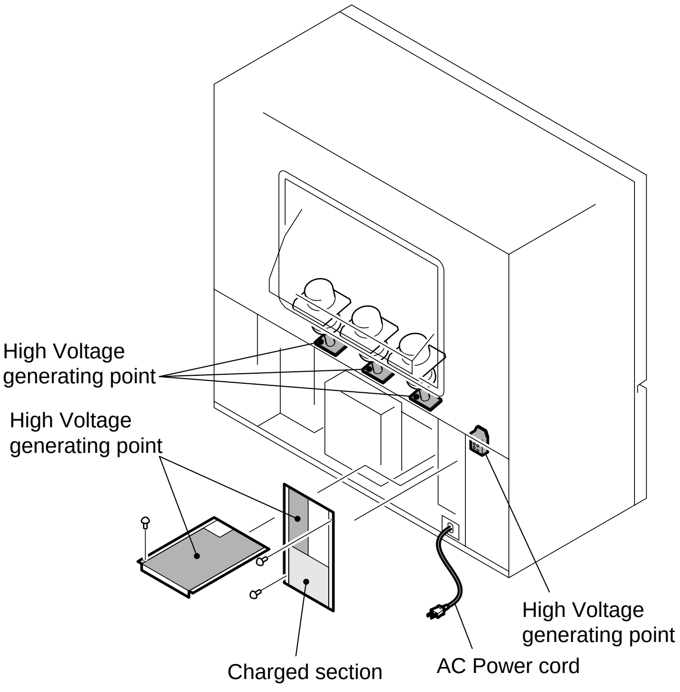

High Voltage generating point
High Voltage generating point
High Voltage generating point
Charged section
AC Power cord

Fig. 1 Charged section and high voltage generating point

■ High voltage generating point

The place where voltage is 100V is generated.

1.Charged seciton
DEFLECTION assy
(including FBT) (30.5kV, 1.2kV, 210V,135V)
2. POWER SUPPLY assy (135V)
3. R. CRT DRIVE assy (10.5kV, 210V)
4. G. CRT DRIVE assy (10.5kV, 210V)
5. B. CRT DRIVE assy (10.5kV, 210V)
6. CRT assy R (CRT service assy R) (30.5kV)
7. CRT assy G (CRT service assy G) (30.5kV)
8. CRT assy B (CRT service assy B) (30.5kV)
9. Focus variable resistor(VR1) (10.5kV)
10. Deflection yokes (L1, L2 and L3) Approx. (1100V at peak)

■ X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assy R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows : When the current flows to the CRT assy R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assy. R, G, B. Accordingly, never supply current only to the CRT assy R, G, B.

  Moreover, the anode voltage of the CRT assy R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is less than 30.5kV). Be sure to drive the CRT assy R, G, B by using a completely functional DEFLECTION assy which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assy R, G, B (Do not dismantle CRT assemblies under any circumastances)
2. Each Lens assy

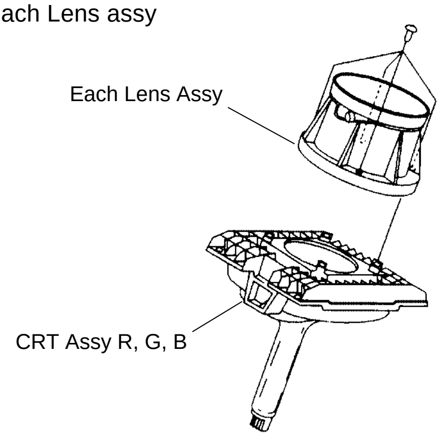
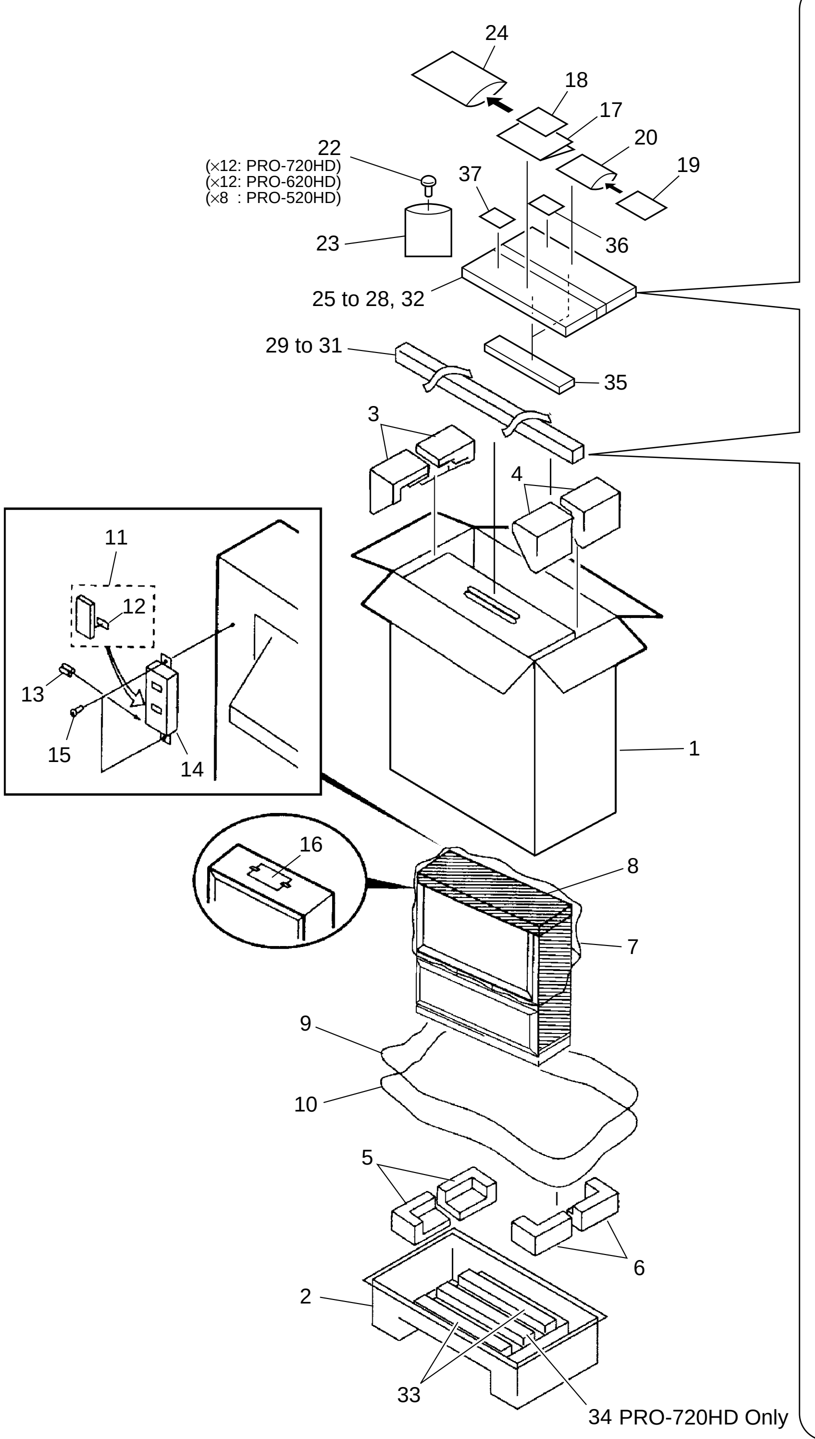


Fig. 2 Component parts for X-ray protection

2. EXPLODED VIEWS AND PARTS LIST

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING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(×12: PRO-620HD)
(×8 : PRO-520HD)
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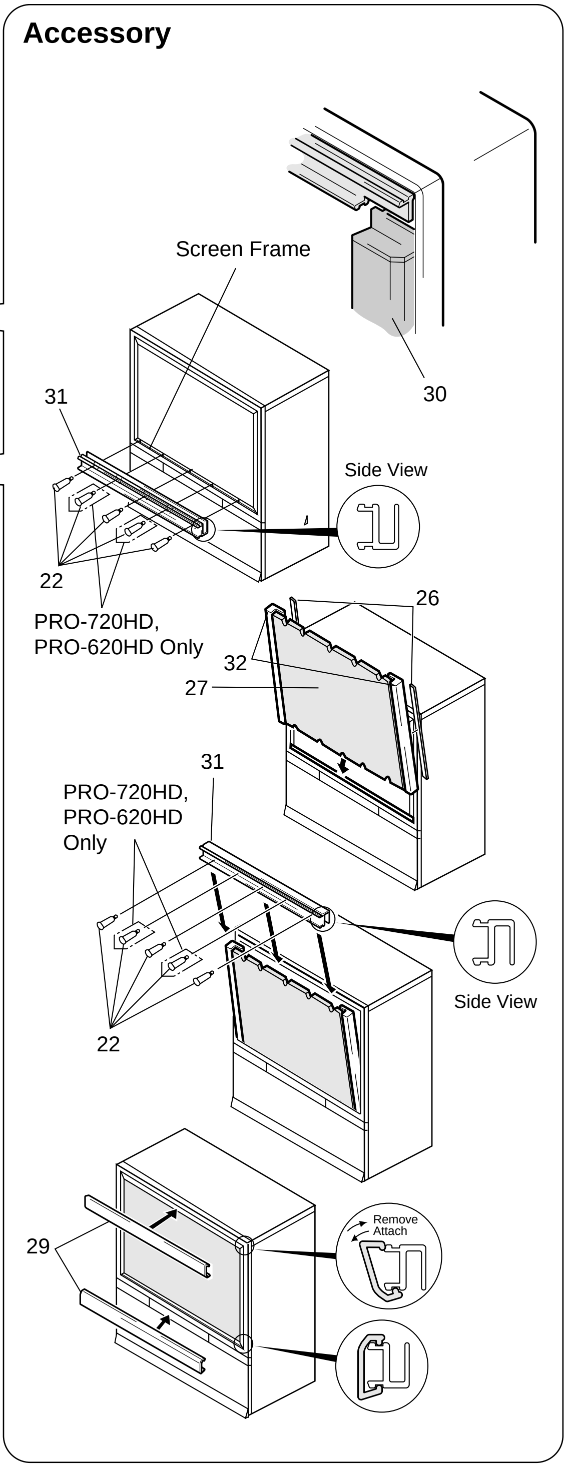
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Side View
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Only
Side View
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Remove
Attach

(1) PACKING PARTS LIST

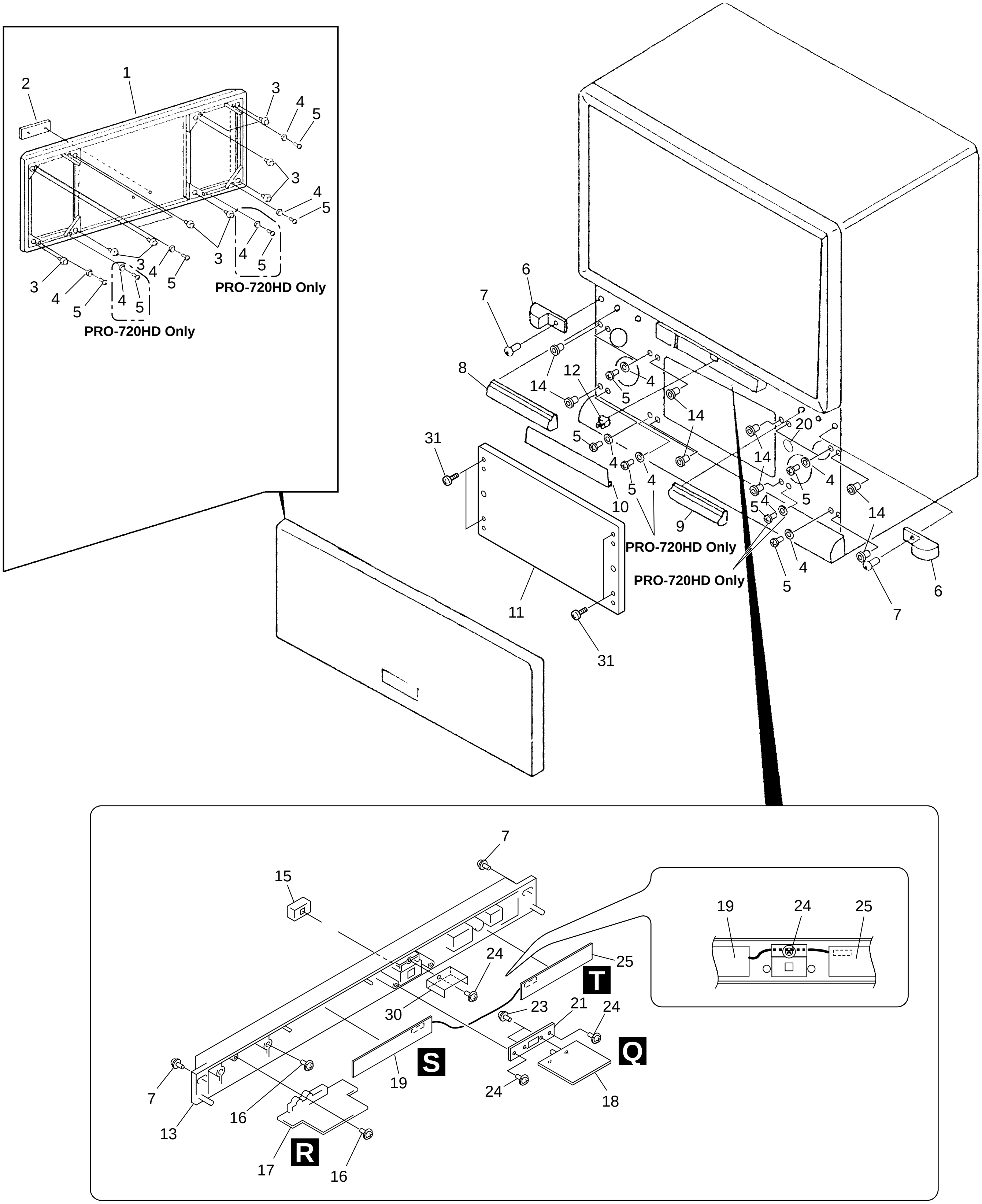
Mark	No.	Description	Part No.
	1	Upper Carton	See Contrast table (2)
	2	Under Carton	See Contrast table (2)
	3	Upper Pad L	See Contrast table (2)
	4	Upper Pad R	See Contrast table (2)
	5	Under Pad L	See Contrast table (2)
	6	Under Pad R	See Contrast table (2)
NSP	7	Vinyl Sheet Upper	See Contrast table (2)
NSP	8	Packing Sheet	See Contrast table (2)
NSP	9	Packing Sheet Under	See Contrast table (2)
	10	Vinyl Sheet Under	See Contrast table (2)
	11	Remote Control Unit	AXD1458
	12	Battery Cover	AZN2401
NSP	13	Alkarine Dry Cell Battery(LR6,AA)	AEX1018
	14	CU Packing Case	AHC1032
	15	Special Screw	ABA1239
	16	CONV. Attention Card	ARM1173
	17	Operating Instructions (English)	ARB1543
NSP	18	Caution Card	ARM1057
NSP	19	Warranty Card	ARY1026
NSP	20	Poly Bag	AHG1285
	21	• • • • •	
	22	Special Screw (Panel Frame Attaching Screw)	See Contrast table (2)
NSP	23	Wrapper Bag	AHG1076
NSP	24	Literature Bag	AHG1222
	25	Panel Case	See Contrast table (2)
	26	Panel Cushion	AEC1790
	27	Contrast Screen	See Contrast table (2)
	28	Acrylic Caution Card	ARH1167
	29	Frame Cover H	See Contrast table (2)
	30	Frame Cover V Assy	See Contrast table (2)
	31	Panel Frame H	See Contrast table (2)
	32	Panel Frame V	See Contrast table (2)
NSP	33	Under Cushion A	See Contrast table (2)
NSP	34	Under Cushion B	See Contrast table (2)
	35	Cushion	See Contrast table (2)
	36	PC Caution Card (English)	ARM1190
	37	PC Caution Card (French)	ARM1191

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
	1	Upper Carton	AHD3092	AHD3091	AHD3090	
	2	Under Carton	AHD2995	AHD3047	AHD3048	
	3	Upper Pad L	AHA2222	AHA2253	AHA2253	
	4	Upper Pad R	AHA2223	AHA2254	AHA2254	
	5	Under Pad L	AHA2224	AHA2255	AHA2255	
	6	Under Pad R	AHA2225	AHA2256	AHA2256	
NSP	7	Vinyl Sheet Upper	AHG1288	AHG1288	AHG1095	
NSP	8	Packing Sheet	AHG1230	AHG1230	AHG1120	
NSP	9	Packing Sheet Under	AHG1290	AHG1290	AHG1235	
	10	Vinyl Sheet Under	AHG1289	AHG1289	AHG1234	
	22	Special Screw	ABA1226	ABA1280	ABA1280	
	25	Panel Case	AHB1228	AHB1227	AHB1226	
	27	Contrast Screen	AAK2777	AAK2776	AAK2775	
	29	Frame Cover H	AAP1593	AAP1613	AAP1614	
	30	Frame Cover V Assy	AAP1594	AAP1617	AAP1619	
	31	Panel Frame H	AND1163	AAP1629	AAP1630	
	32	Panel Frame V	AND1164	AND1169	AND1167	
NSP	33	Under Cushion A	AHA2228	AHA2258	AHA2260	
NSP	34	Under Cushion B	AHA2229	Not used	Not used	
	35	Cushion	AHA2268	AHA2267	AHA2266	

2.2 FRONT VIEW (1/2)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(1) FRONT VIEW (1/2) PARTS LIST

Mark	No.	Description	Part No.
	1	Grille	See Contrast table (2)
	2	Badge	AAM1081
NSP	3	Catcher A	ANZ-241
	4	Magic Tape	AEC1394
	5	Screw	ABA1271
	6	Side Cover	AMR3107
	7	Special Screw	ABA1240
	8	Side Panel Assy L	See Contrast table (2)
	9	Side Panel Assy R	See Contrast table (2)
	10	Door Assy	AAN1464
	11	Blind Plate	AMM3009
	12	Catcher F2M	AEC1609
	13	Front Panel Assy	AMB2688
	14	Catch B	AEC1507
	15	Power Knob	AAD4105
	16	Screw	ABZ40P080FZK
	17	FRONT INPUT Assy	AWZ6466
	18	POWER SW Assy	AWZ6467
	19	FRONT CONTROL Assy	AWZ6462
NSP	20	UL Caution Card	AAX1238

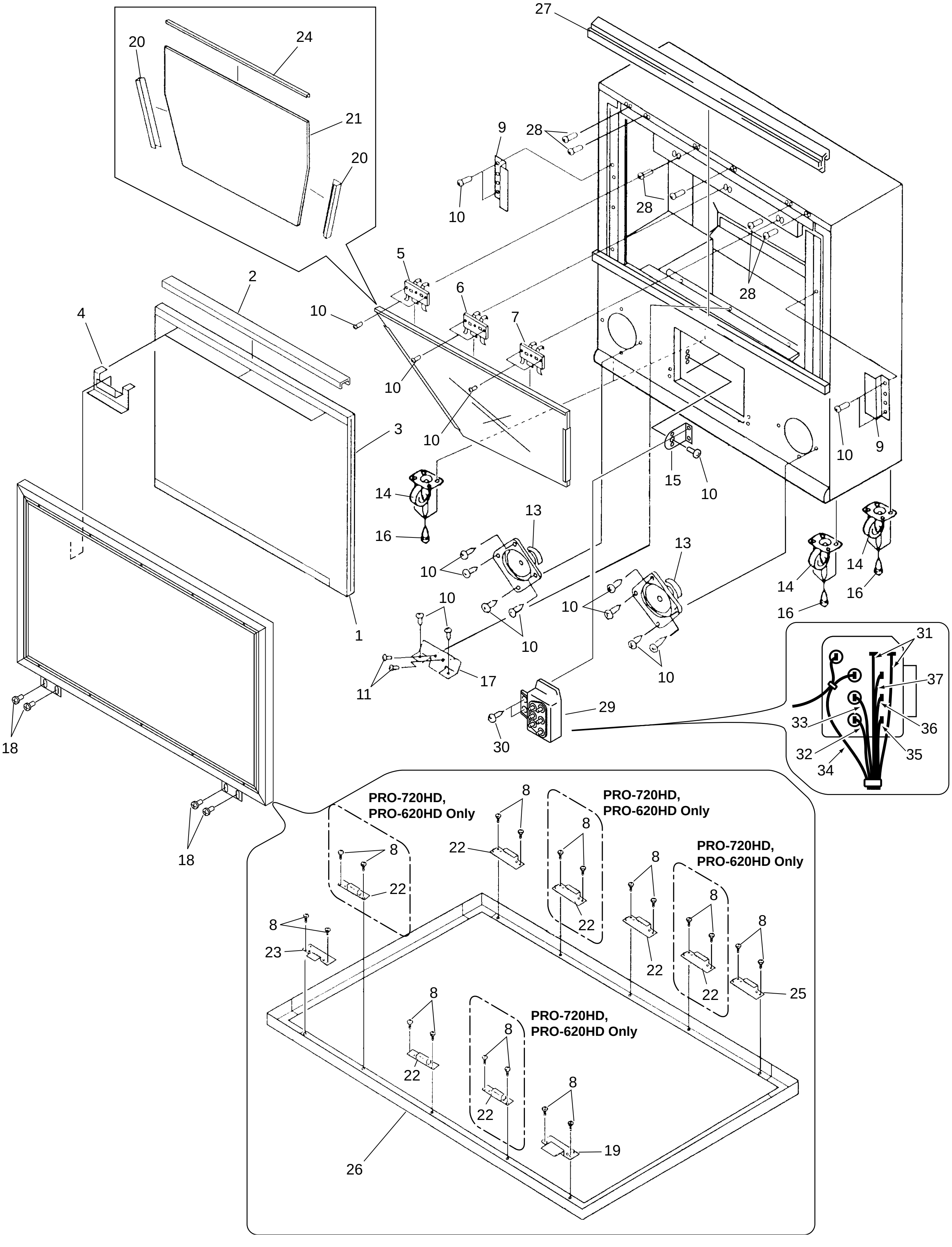
Mark	No.	Description	Part No.
NSP	21	Switch Holder	ANG2313
	22	• • • • •	
	23	Screw	AMZ30P060FZK
	24	Screw	APZ30P080FZK
	25	LED DPO Assy	AWZ6470
	26	• • • • •	
	27	• • • • •	
	28	• • • • •	
	29	• • • • •	
NSP	30	Front Shield	ANK1502
	31	Special Screw	ABA1249

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
	1	Grille	AMM3119	AMM3118	AMM3117	
	8	Side Panel Assy L	AMB2702	AMB2701	AMB2700	
	9	Side Panel Assy R	AMB2691	AMB2690	AMB2689	

2.3 FRONT VIEW (2/2)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(1) FRONT VIEW (2/2) PARTS LIST

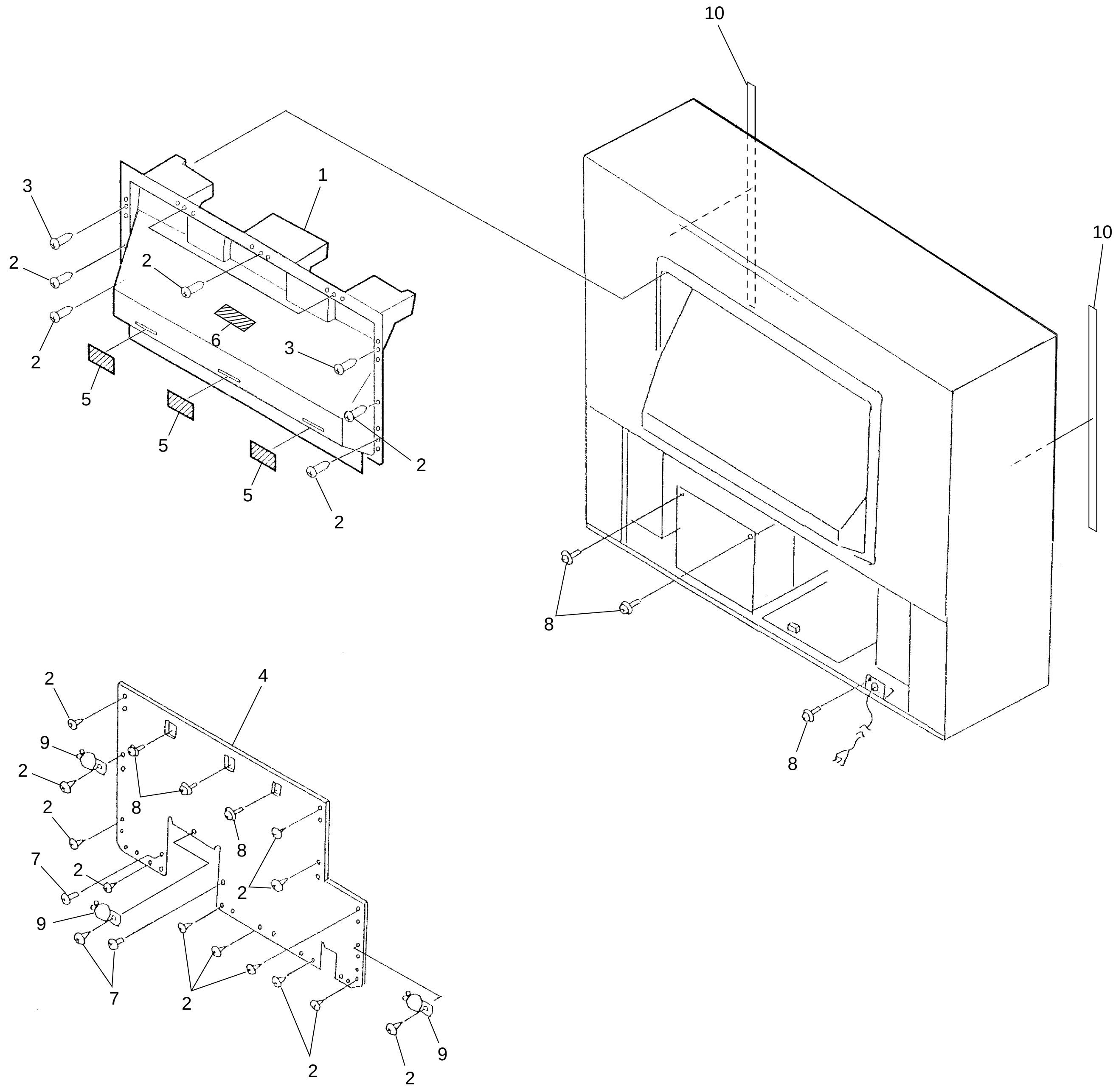
Mark	No.	Description	Part No.
	1	Lenticular Sheet	See Contrast table (2)
	2	Screen Holder Top	See Contrast table (2)
	3	Fresnel	See Contrast table (2)
NSP	4	Upper Cabinet Metal	ANG2000
NSP	5	Mirror Upper Stay L	ANG2004
NSP	6	Mirror Upper Stay C	ANG2006
NSP	7	Mirror Upper Stay R	ANG2005
	8	Screw	BYC40P160FMC
NSP	9	Screen Side Fitting	ANG1993
	10	Special Screw	ABA1240
	11	Screw	ACZ40P080FMC
	12	• • • • •	
	13	Cone Speaker	APV1021
	14	Caster	AMR2547
NSP	15	VR Holder	ANG1956
	16	Special Screw	ABA1273
NSP	17	CRT Front Holder	ANG2118
	18	Screw M5	ABA1189
NSP	19	Under Screen Metal B	ANG2009
	20	Mirror Frame V	See Contrast table (2)
	21	Mirror	See Contrast table (2)
NSP	22	Upper Screen Metal B	ANG2002
NSP	23	Under Screen Metal A	ANG2003
	24	Mirror Frame H	See Contrast table (2)
NSP	25	Upper Screen Metal A	ANG2001
	26	Screen Frame Assy	See Contrast table (2)
	27	Screen Holder Low	See Contrast table (2)
	28	Screw	BYC35P160FZK
⚠	29	Focus VR (VR1)	ACX1096
	30	Screw	BBZ30P080FZK
	31	4P Housing Wire	ADX2484
	32	1P Lead Wire	ADX2558
	33	1P Lead Wire	ADX2559
	34	1P Lead Wire	ADX2560
	35	1P Lead Wire	ADX2561
	36	1P Lead Wire	ADX2562
	37	1P Lead Wire	ADX2563

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
	1	Lenticular Sheet	AMR3277	AMR3250	AMR3249	
	2	Screen Holder Top	ANG2312	ANG2369	ANG2370	
	3	Fresnel	AMR3116	AMR3186	AMR3187	
	20	Mirror Frame V	ANG2392	ANG2373	ANG2374	
	21	Mirror	AMR3113	AMR3188	AMR3189	
	24	Mirror Frame H	ANG2391	ANG2371	ANG2372	
	26	Screen Frame Assy	AAP1636	AAP1635	AAP1634	
	27	Screen Holder Low	AAP1601	AAP1646	AAP1645	

2.4 REAR VIEW (1/2)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(1) REAR VIEW (1/2) PARTS LIST

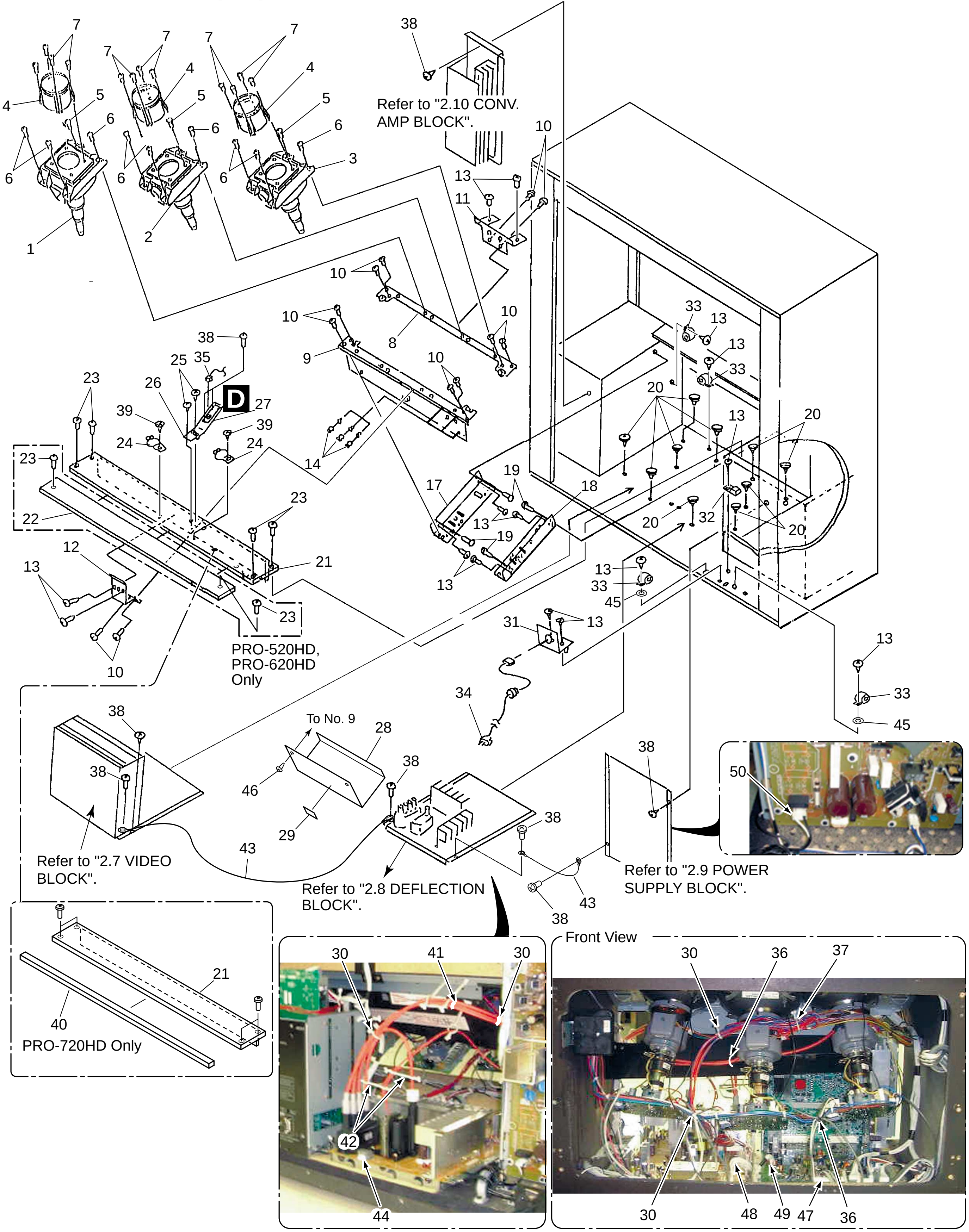
Mark	No.	Description	Part No.
	1	Mirror Case 51	AME2296
	2	Screw	ABA1240
	3	Screw	PYC40T140FZB
	4	Rear Cover	See Contrast table (2)
	5	Blind Sheet	AEC1622
	6	Mirror Case Label	AAX2448
	7	Screw	ABZ30P100FZK
	8	Screw	ABA1269
NSP	9	Cabinet Wire Holder	AEC1263
	10	Screen Cushion	See Contrast table (2)

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
	4	Rear Cover	AMM2929	AMM2999	AMM2999	
	10	Screen Cushion	AEC1778	AEC1830	AEC1831	

2.5 REAR VIEW (2/2)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Refer to "2.10 CONV. AMP BLOCK".

PRO-520HD,
PRO-620HD
Only

To No. 9

Refer to "2.7 VIDEO BLOCK".

Refer to "2.8 DEFLECTION BLOCK".

Refer to "2.9 POWER SUPPLY BLOCK".

PRO-720HD Only

Front View

(1) REAR VIEW (2/2) PARTS LIST

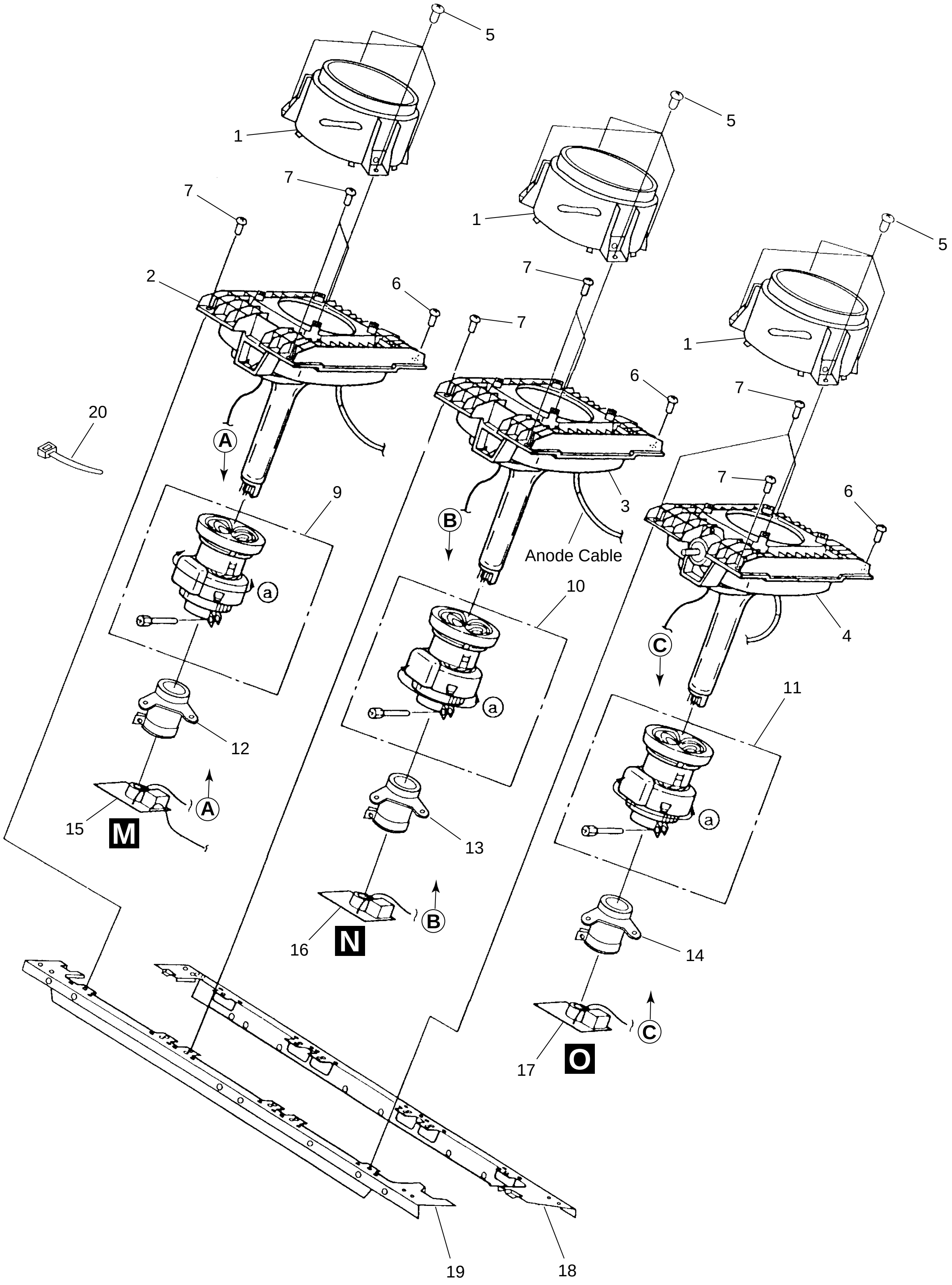
Mark	No.	Description	Part No.
☆	1	CRT Service Assy B	See Contrast table (2)
☆	2	CRT Service Assy G	AWY1431
☆	3	CRT Service Assy R	See Contrast table (2)
☆	4	Lens Assy	See Contrast table (2)
	5	Screw	FBT40P120FZK
	6	Screw	ABA1168
	7	Screw	AMZ40P080FZK
NSP	8	CRT Front Frame	See Contrast table (2)
NSP	9	CRT Rear Frame	See Contrast table (2)
	10	Screw	ACZ40P080FMC
NSP	11	CRT Front Holder	ANG2118
NSP	12	CRT Rear Holder	ANG2119
	13	Screw	ABA1240
	14	Cord Holder	AEC1257
	15	• • • • •	
	16	• • • • •	
NSP	17	CRT Stand Holder R	ANA1497
NSP	18	CRT Stand Holder L	ANA1496
	19	Screw	PMB50P250FZB
	20	Special Screw	ABA1121
NSP	21	Back Cover Panel	See Contrast table (2)
NAP	22	Rear Cover Panel	See Contrast table (2)
	23	Screw	ABA1241
NSP	24	Cabinet Wire Holder	AEC1263
	25	Screw	ABA1279
NSP	26	Fixing Metal	ANG1958
	27	SR Assy	AWZ6465
NSP	28	Tray	AMR2936
NSP	29	Solder Warning Label	AAX2835
	30	Purse Lock	AEC1540
NSP	31	AC Cord Holder A	ANG2307
	32	Bind Holder	AEC1785
	33	Ferrite Core	ATX1040
⚠	34	AC Power Cord	ADG1180
	35	3P Housing Wire	ADX2566
NSP	36	Purse Lock S	AEC1261
NSP	37	Purse Lock L	AEC1422
	38	Screw	BBZ30P080FZK
	39	Screw	ABA1271
	40	Back Cover Cushion	See Contrast table (2)
	41	Binder	AEC1793
NSP	42	Cable Clip	AEC1369
	43	1P Lead Wire (J1)	ADX2505
	44	Shield Case	ANK1510
	45	Nylon Washer	AEC1863
	46	Screw	ABZ30P100FZK
	47	Wire Harness B	ADX2487
	48	Wire Harness A	ADX2564
	49	Wire Harness E	ADX2565
	50	2P Lead Wiht Housing	ADX2568

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
☆	1	CRT Service Assy B	AWY1438	AWY1435	AWY1433	
☆	3	CRT Service Assy R	AWY1437	AWY1434	AWY1432	
☆	4	Lens Assy	AMR3235	AMR3248	AMR3248	
NSP	8	CRT Front Frame	ANA1541	ANA1613	ANA1614	
NSP	9	CRT Rear Frame	ANA1542	ANA1615	ANA1616	
NSP	21	Back Cover Panel	AMM3122	AMM3001	AMM3002	
NSP	22	Rear Cover Panel	Not used	AMM3121	AMM3121	
	40	Back Cover Cushion	AEC1779	Not used	Not used	

2.6 CRT BLOCK


Anode Cable
A
B
C
a
a
a
M
N
O
A
B
C

(1) CRT BLOCK PARTS LIST

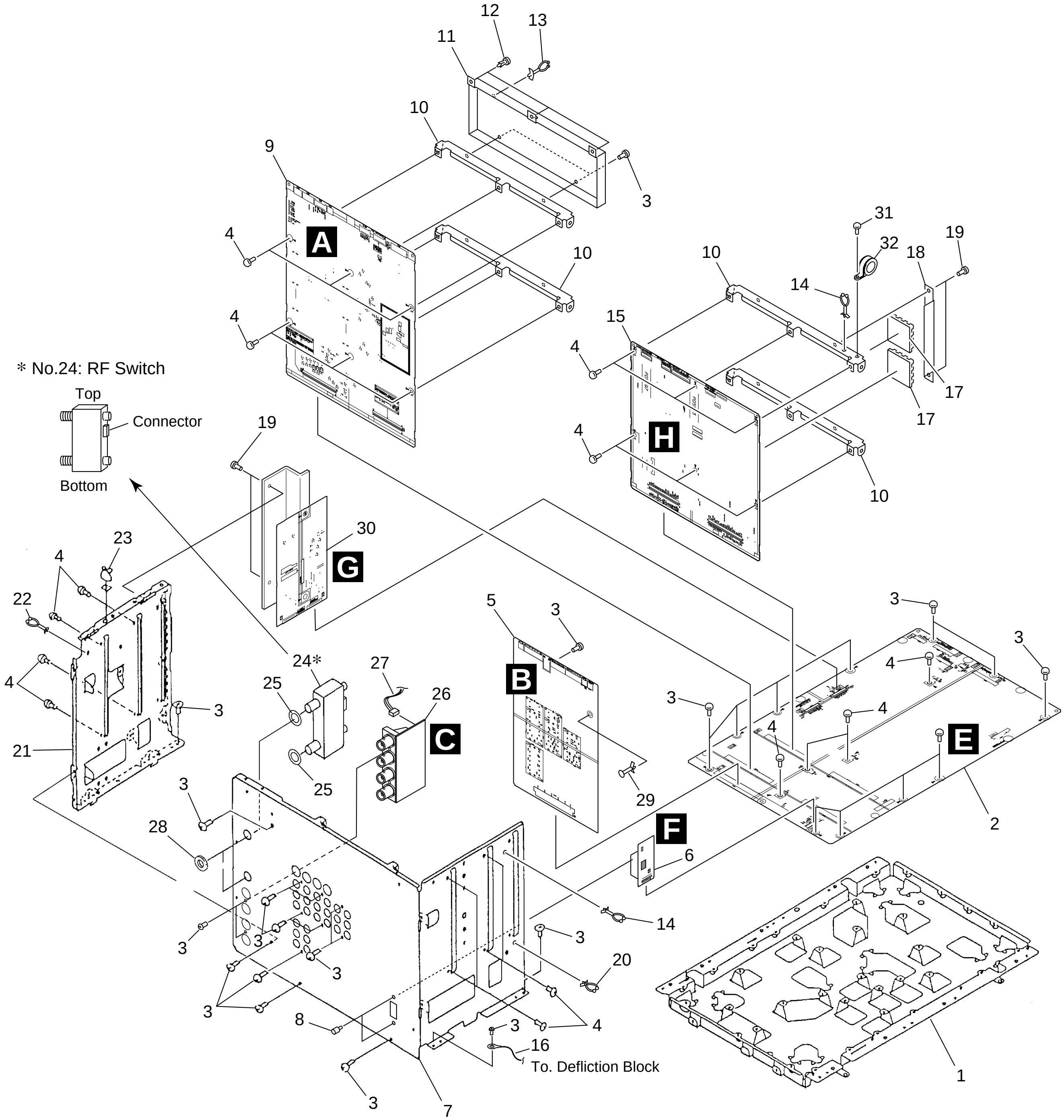
Mark	No.	Description	Part No.
☆	1	Lens Assy	See Contrast table (2)
☆	2	CRT Service Assy R	See Contrast table (2)
☆	3	CRT Service Assy G	AWY1431
☆	4	CRT Service Assy B	See Contrast table (2)
	5	Screw	AMZ40P080FZK
	6	Screw	FBT40P120FZK
	7	Screw	ABA1168
	8	• • • • •	
⚠	9	Deflection Yoke (L1)	ATL1145
⚠	10	Deflection Yoke (L2)	ATL1145
⚠	11	Deflection Yoke (L3)	ATL1145
⚠	12	VM Coil (L4)	ATL1137
⚠	13	VM Coil (L5)	ATL1137
⚠	14	VM Coil (L6)	ATL1137
	15	R. CRT DRIVE Assy	AWZ6601
	16	G. CRT DRIVE Assy	AWZ6602
	17	B. CRT DRIVE Assy	AWZ6603
NSP	18	CRT Rear Frame	See Contrast table (2)
NSP	19	CRT Front Frame	See Contrast table (2)
	20	Nylon Binder	AEC-093

(2) CONTRAST TABLE

PRO-720HD, PRO-620HD and PRO-520HD are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			PRO-720HD KUXC/CA	PRO-620HD KUXC/CA	PRO-520HD KUXC/CA	
☆	1	Lens Assy	AMR3235	AMR3248	AMR3248	
☆	2	CRT Service Assy R	AWY1437	AWY1434	AWY1432	
☆	4	CRT Service Assy B	AWY1438	AWY1435	AWY1433	
NSP	18	CRT Rear Frame	ANA1542	ANA1615	ANA1616	
NSP	19	CRT Front Frame	ANA1541	ANA1613	ANA1614	

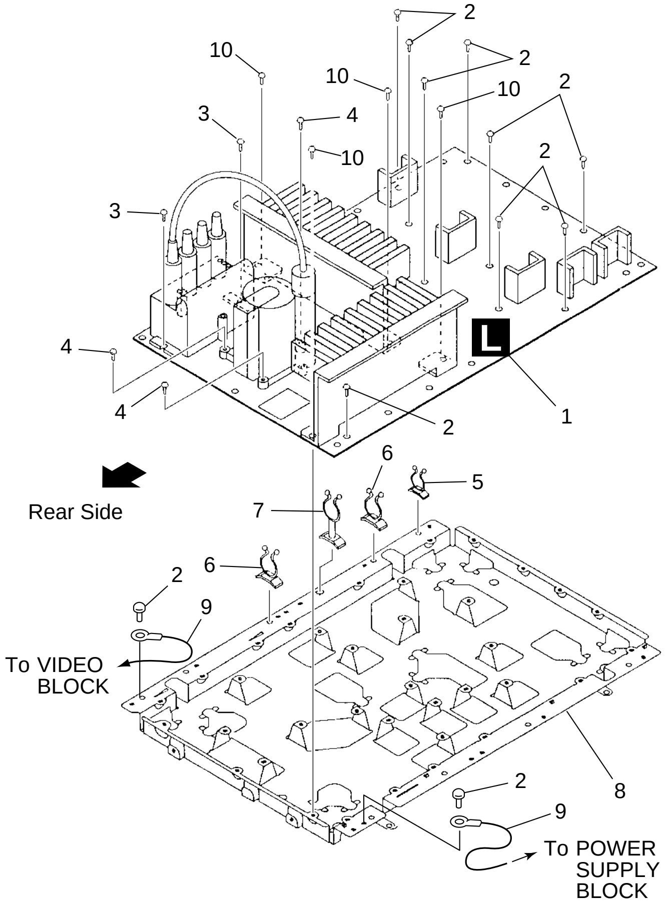
2.7 VIDEO BLOCK


12
13
11
10
9
3
31
32
19
18
4
A
10
10
14
15
4
17
17
4
H
10
∗ No.24: RF Switch
Top
Connector
Bottom
19
30
G
23
4
22
4
21
3
5
3
B
3
3
4
4
3
4
E
2
24∗
25
27
26
C
25
29
F
6
3
28
3
3
3
3
3
8
3
4
16
To. Defliction Block
14
3
20
1
3
7

VIDEO BLOCK PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Video Chassis	ANA1584
	2	VIDEO Assy	AWV1916
	3	Screw	BBZ30P080FZK
	4	Screw	BBZ30P080FCU
	5	AV I/O Assy	AWV1919
	6	RGB SW Assy	AWZ6468
	7	Rear Panel	ANC2348
	8	Hexagon Head Screw	BBA1051
	9	SIGNAL Assy	AWV1917
NSP	10	PCB Sub Frame	ANG2304
	11	Signal Shield	ANK1629
	12	Rivet	AEC–441
NSP	13	Cable Clip D3S	AEC1782
	14	Cable Clip	AEC1806
	15	SUB VIDEO Service Assy	AWV1922
	16	1P Lead Wire	ADX2505
NSP	17	IP Heat Sink	ANH1591
	18	IP Heat Sink Holder	AEC1850
	19	Screw	ABZ30P100FZK
NSP	20	Cable Clip D3M	AEC1783
NSP	21	PCB Side Holder	ANG2305
	22	Cable Clip	AEC1806
NSP	23	Cable Clip A	AEC1325
	24	RF Switch	AXF1088
	25	Washer	WAX0F160N100
	26	BNC Assy	AWV1920
	27	Housing Wire	ADX2681
	28	Nut	BBN1005
NSP	29	Mini Card Spacer	AEC1835
	30	AUDIO Assy	AWZ6472
	31	Screw	ABZ30P100FMC
	32	Ferrite Core	ATX1040

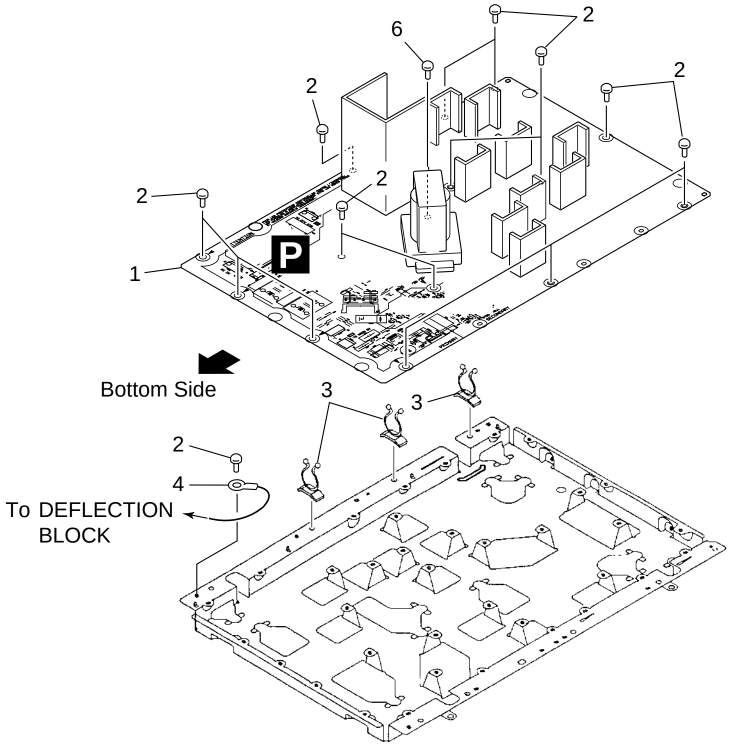
2.8 DEFLECTION BLOCK


2
10
10
2
10
2
3
4
10
2
3
L
4
4
2
1
Rear Side
6
5
7
6
2
9
To VIDEO BLOCK
2
8
9
To POWER SUPPLY BLOCK

■ DEFLECTION BLOCK PARTS LIST

Mark	No.	Description	Part No.
☆	1	DEFLECTION SERVICE Assy	AWV1921
	2	Screw	BBZ30P080FZK
	3	Screw	ABZ30P100FZK
	4	Screw	VBZ30P200FMC
NSP	5	Cable Clip D3S	AEC1782
NSP	6	Cable Clip D3M	AEC1783
NSP	7	Cable CliP	AEC1325
NSP	8	DF Chassis	ANA1583
	9	1P Laed Wire	ADX2505
	10	Screw	ABA1099

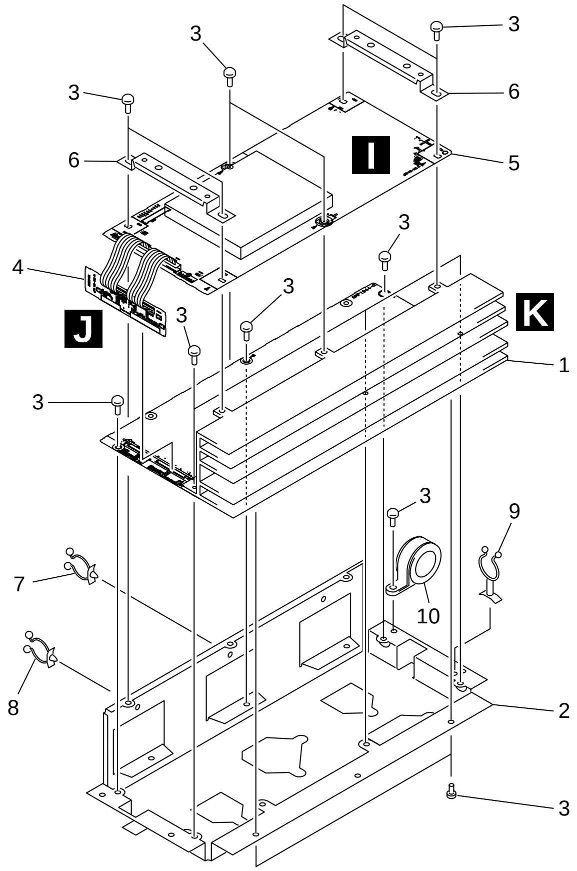
2.9 POWER SUPPLY BLOCK


6
2
2
2
2
2
1
P
Bottom Side
3
3
2
4
To DEFLECTION BLOCK

■ POWER SUPPLY BLOCK PARTS LIST

Mark	No.	Description	Part No.
	1	POWER SUPPLY Assy	AWV1912
	2	Screw	BBZ30P080FZK
NSP	3	Cable Clip D3M	AEC1783
	4	1P Laed Wire	ADX2505
	5	• • • • •	
	6	Screw	ABZ30P100FMC

2.10 CONV. AMP BLOCK



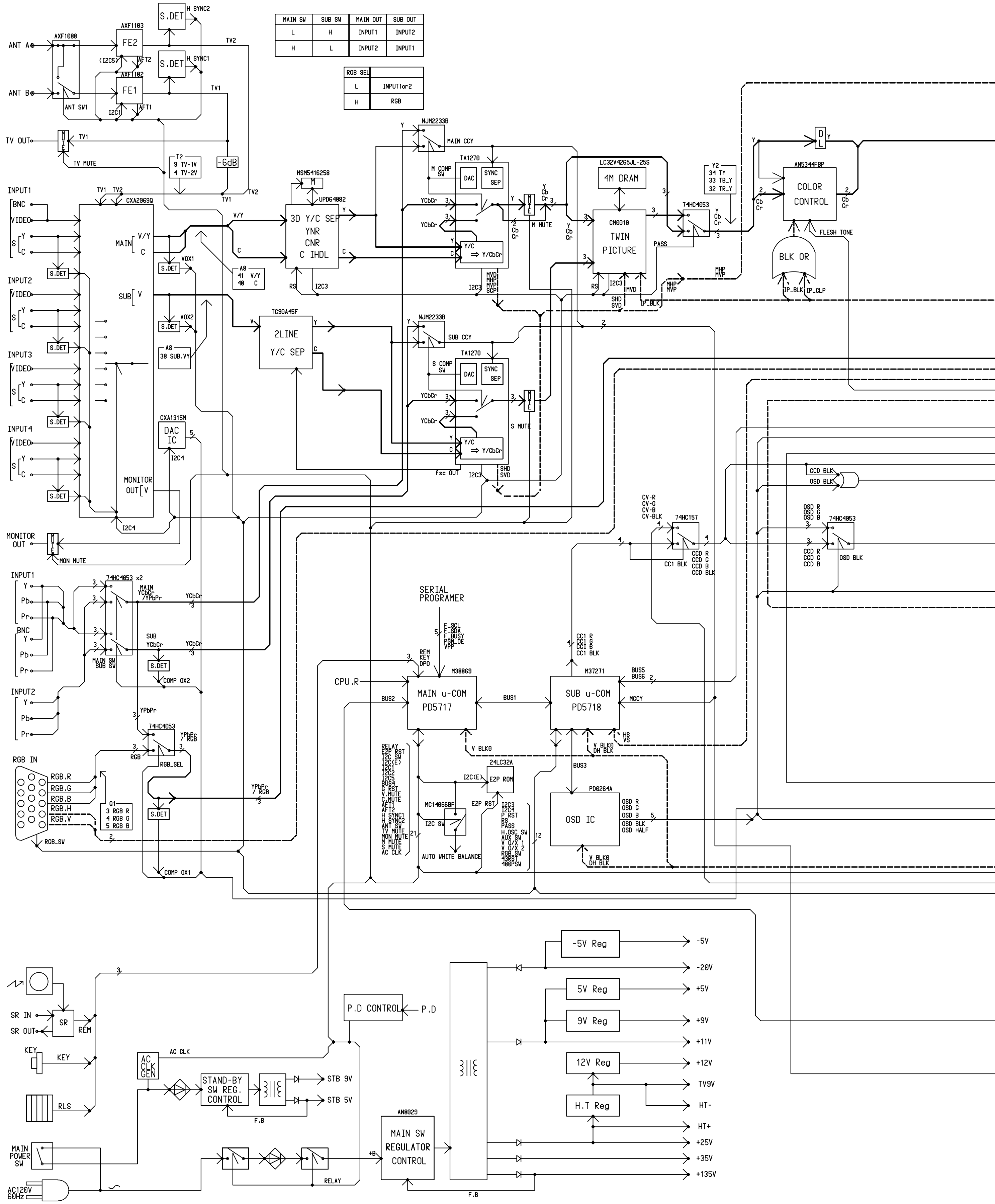
■ CONV. AMP BLOCK PARTS LIST

Mark	No.	Description	Part No.
	1	CONV. AMP Assy	AWZ6649
NSP	2	CONV. Chassis	ANA1619
	3	Screw	ABZ30P100FMC
	4	CONNECTOR Assy	AWZ6461
	5	DIGITAL CONV. ASSY	AWZ6460
NSP	6	CONV. Holder	ANG2365
NSP	7	Cable Clip D3M	AEC1783
NSP	8	Cable Clip D3S	AEC1782
	9	Cable Clip	AEC1806
	10	Ferrite Core	ATX1040

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

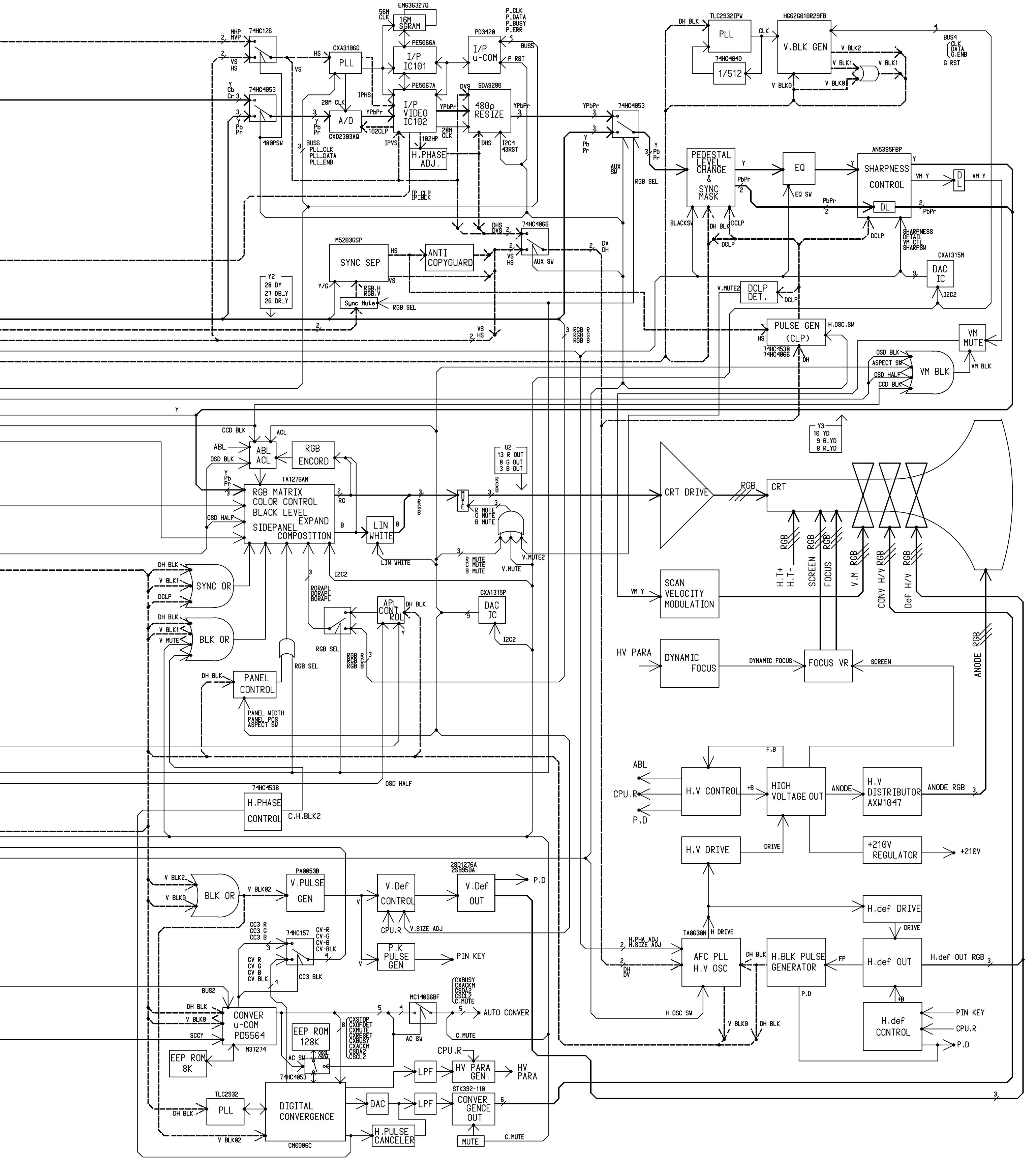
3.1 BLOCK DIAGRAM

3.1.1 OVERALL BLOCK DIAGRAM

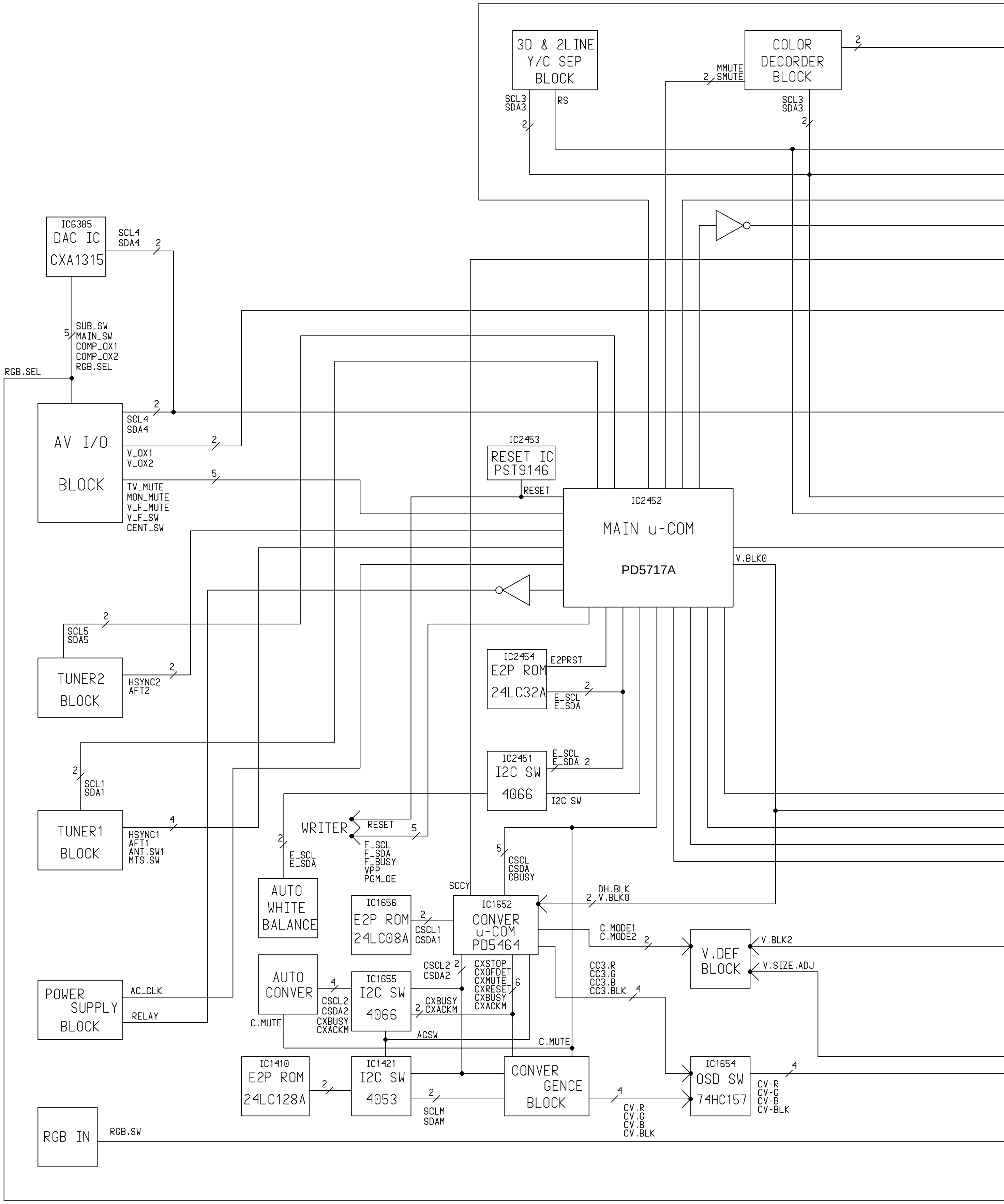

A
B
C
D
ANT A
ANT B
AXF1088
ANT SW1
AXF1103
FE2
AXF1102
FE1
I2C5
AFT2
I2C1
AFT1
S.DET
H SYNC2
H SYNC1
TV2
TV1
TV OUT
TV MUTE
T2
9 TV-1V
4 TV-2V
-6dB
INPUT1
BNC
VIDEO
S
Y
C
INPUT2
INPUT3
INPUT4
CXA2069Q
MAIN
V/Y
SUB
MONITOR OUT
I2C4
VOX1
VOX2
A8
41 V/Y
40 C
38 SUB.VY
CXA1315M
DAC IC
MONITOR OUT
MON MUTE
MSM5416258
UPD64082
3D Y/C SEP
YNR
CNR
C IHDL
RS
I2C3
TC90A45F
2LINE
Y/C SEP
NJM2233B
MAIN CCY
SUB CCY
TA1270
M COMP SW
S COMP SW
DAC
SYNC SEP
YCbCr
Y/C ⇒ Y/CbCr
M MUTE
S MUTE
MVD
MHP
MVP
SCP
SHD
SVD
fsc OUT
LC32V4265JL-25S
4M DRAM
CM0010
TWIN PICTURE
PASS
IP_BLK
74HC4053
Y2
34 TY
33 TB_Y
32 TR_Y
DL
AN5344FBP
COLOR CONTROL
FLESH TONE
BLK OR
IP_CLP
CCD BLK
OSD BLK
CV-R
CV-G
CV-B
CV-BLK
74HC157
CC1 BLK
CCD R
CCD G
CCD B
OSD R
OSD G
OSD B
74HC4053 x2
MAIN YCbCr /YPbPr
SUB YCbCr
MAIN SW
SUB SW
COMP OX2
COMP OX1
Pb
Pr
YPbPr
RGB
RGB_SEL
RGB IN
RGB.R
RGB.G
RGB.B
RGB.H
RGB.V
RGB_SW
Q1
3 RGB R
4 RGB G
5 RGB B
SERIAL PROGRAMER
F-SCL
F-SDA
F-BUSY
PGM_OE
VPP
REM
KEY
DPO
CPU.R
M38869
MAIN u-COM
PD5717
BUS1
BUS2
M37271
SUB u-COM
PD5718
BUS5
BUS6
MCCY
HS
VS
V BLK0
DH BLK
CC1 R
CC1 G
CC1 B
CC1 BLK
BUS3
24LC32A
I2C(E)
E2P ROM
E2P RST
MC14066BF
I2C SW
AUTO WHITE BALANCE
PD0264A
OSD IC
OSD BLK
OSD HALF
RELAY
E2P RST
I2C SW
I2C(E)
I2C1
I2C2
I2C5
BUS4
G RST
V.MUTE
C.MUTE
AFT1
AFT2
H SYNC1
H SYNC2
ANT SW
TV MUTE
MON MUTE
M MUTE
S MUTE
AC CLK
I2C3
I2C4
P RST
RS
PASS
H.OSC SW
AUX SW
V 0/X 1
V 0/X 2
RGB SW
43RST
480PSW
SR IN
SR OUT
SR
REM
KEY
RLS
MAIN POWER SW
AC120V 60Hz
AC CLK GEN
STAND-BY SW REG. CONTROL
STB 9V
STB 5V
F.B
P.D CONTROL
P.D
AN8029
MAIN SW REGULATOR CONTROL
RELAY
+B
-5V Reg
5V Reg
9V Reg
12V Reg
H.T Reg
-5V
-20V
+5V
+9V
+11V
+12V
TV9V
HT-
HT+
+25V
+35V
+135V

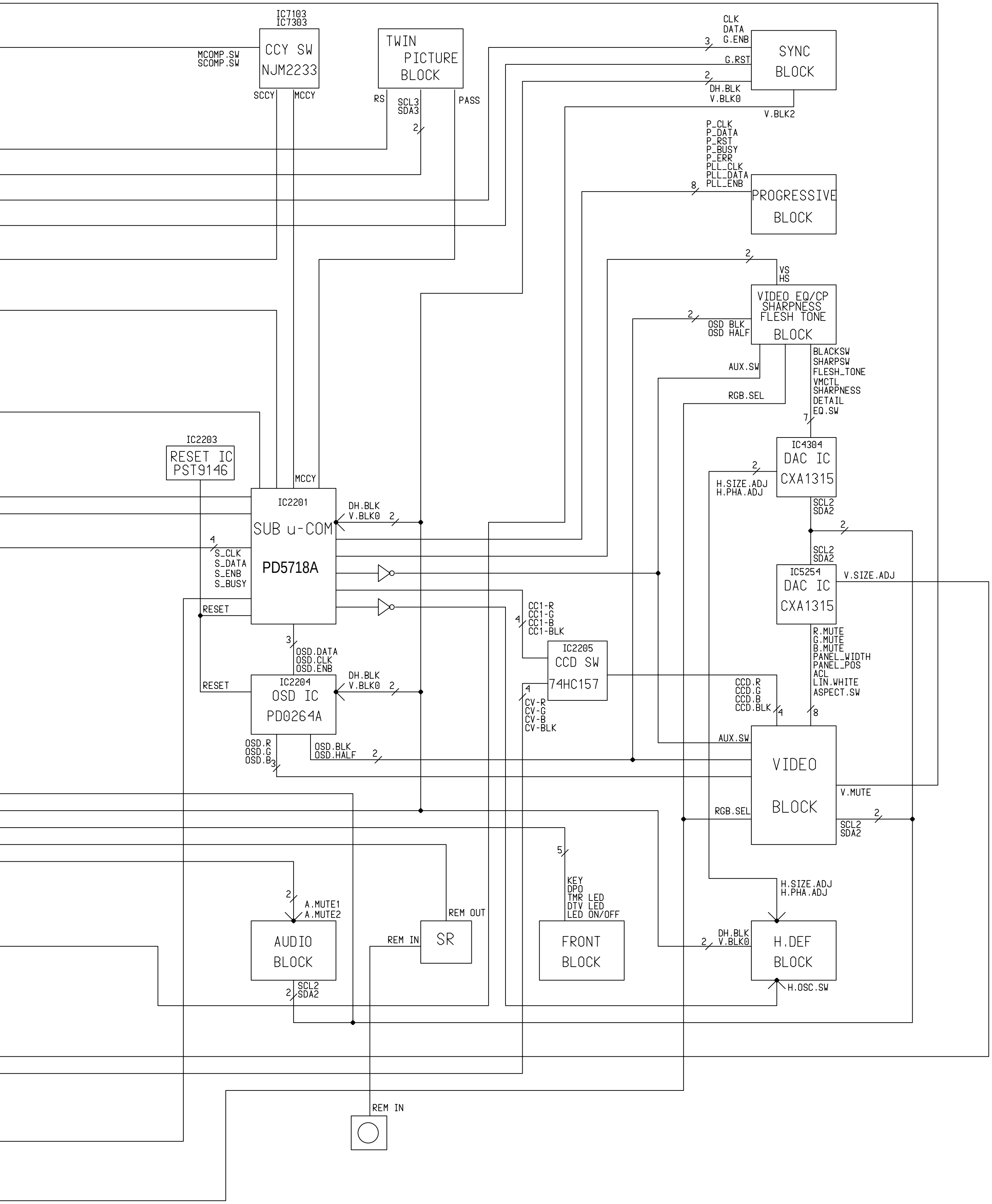
MAIN SW	SUB SW	MAIN OUT	SUB OUT
L	H	INPUT1	INPUT2
H	L	INPUT2	INPUT1

RGB SEL	
L	INPUT1or2
H	RGB


A
B
C
D
74HC126
MHP
MVP
VS
HS
CXA3106Q
PLL
EM636327Q
16M SGRAM
56M CLK
PE5066A
I/P IC101
PD3420
I/P u-COM
P_CLK
P_DATA
P_BUSY
P_ERR
BUS5
P RST
74HC4053
Y Cb Cr
Y Pb Pr
A/D
CXD2303AQ
28M CLK
IPHS
PE5067A
I/P VIDEO IC102
YPbPr
102CLP
102HP
IPVS
SDA9280
DVS
480p RESIZE
28M CLK
DHS
I2C4
43RST
H.PHASE ADJ.
480PSW
BUS6
PLL_CLK
PLL_DATA
PLL_ENB
IP-CLP
IP-BLK
TLC2932IPW
DH BLK
PLL
CLK
74HC4040
1/512
HG62G010R29FB
V.BLK GEN
V BLK2
V BLK1
V BLK0
BUS4
CLK
DATA
G.ENB
G RST
AUX SW
RGB SEL
PEDESTAL LEVEL CHANGE & SYNC MASK
EQ
EQ SW
AN5395FBP
SHARPNESS CONTROL
VM Y
DL
PbPr
SHARPNESS
DETAIL
VM CTL
SHARPSW
BLACKSW
DCLP
CXA1315M
DAC IC
I2C2
V.MUTE2
DCLP DET.
PULSE GEN (CLP)
H.OSC.SW
74HC4538
74HC4066
VM MUTE
OSD BLK
ASPECT SW
OSD HALF
CCD BLK
VM BLK
74HC4066
DHS
DVS
DV
DH
AUX SW
M52036SP
SYNC SEP
ANTI COPYGUARD
Y/G
RGB.H
RGB.V
Sync Mute
RGB SEL
Y2
28 DY
27 DB_Y
26 DR_Y
Y3
10 YD
9 B_YD
8 R_YD
Y
CCD BLK
ABL
ACL
ABL ACL
OSD BLK
RGB ENCORD
TA1276AN
RGB MATRIX COLOR CONTROL BLACK LEVEL EXPAND SIDEPANEL COMPOSITION
OSD HALF
RG
LIN WHITE
U2
13 R OUT
8 G OUT
3 B OUT
MUTE
R MUTE
G MUTE
B MUTE
V.MUTE2
V.MUTE
CRT DRIVE
RGB
CRT
DH BLK
V BLK1
DCLP
SYNC OR
V MUTE
BLK OR
I2C2
RORAPL
GORAPL
BORAPL
APL CONTROL
CXA1315P
DAC IC
RGB SEL
PANEL CONTROL
PANEL WIDTH
PANEL POS
ASPECT SW
OSD HALF
74HC4538
H.PHASE CONTROL
C.H.BLK2
H.T+
H.T-
SCREEN
FOCUS
V.M
CONV H/V
Def H/V
ANODE RGB
SCAN VELOCITY MODULATION
HV PARA
DYNAMIC FOCUS
FOCUS VR
SCREEN
F.B
ABL
CPU.R
P.D
H.V CONTROL
+B
HIGH VOLTAGE OUT
ANODE
H.V DISTRIBUTOR AXW1047
H.V DRIVE
DRIVE
+210V REGULATOR
+210V
H.def DRIVE
TA8638N
H DRIVE
H.PHA ADJ
H.SIZE ADJ
AFC PLL H.V OSC
H.BLK PULSE GENERATOR
FP
H.def OUT
H.def OUT RGB
H.OSC SW
V BLK0
PIN KEY
CPU.R
H.def CONTROL
P.D
V BLK2
V BLK0
BLK OR
V BLK02
PA0053B
V.PULSE GEN
V.Def CONTROL
2SD1276A
2SB950A
V.Def OUT
P.D
CPU.R
V.SIZE ADJ
P.K PULSE GEN
PIN KEY
CC3 R
CC3 G
CC3 B
74HC157
CV-R
CV-G
CV-B
CV-BLK
CV R
CV G
CV B
CV BLK
CC3 BLK
BUS2
CONVER u-COM PD5564
SCCY
M37274
EEP ROM 8K
EEP ROM 128K
CXSTOP
CXOFDET
CXMUTE
CXRESET
CXBUSY
CXACKM
CSDA2
CSCL2
MC14066BF
CXBUSY
CXACKM
CSDA2
CSCL2
C.MUTE
AUTO CONVER
AC SW
C.MUTE
CSCL
CSDA
74HC4053
CPU.R
LPF
HV PARA GEN.
HV PARA
TLC2932
PLL
DIGITAL CONVERGENCE
CM0006C
DAC
LPF
STK392-110
CONVER GENCE OUT
H.PULSE CANCELER
MUTE
C.MUTE
V BLK02

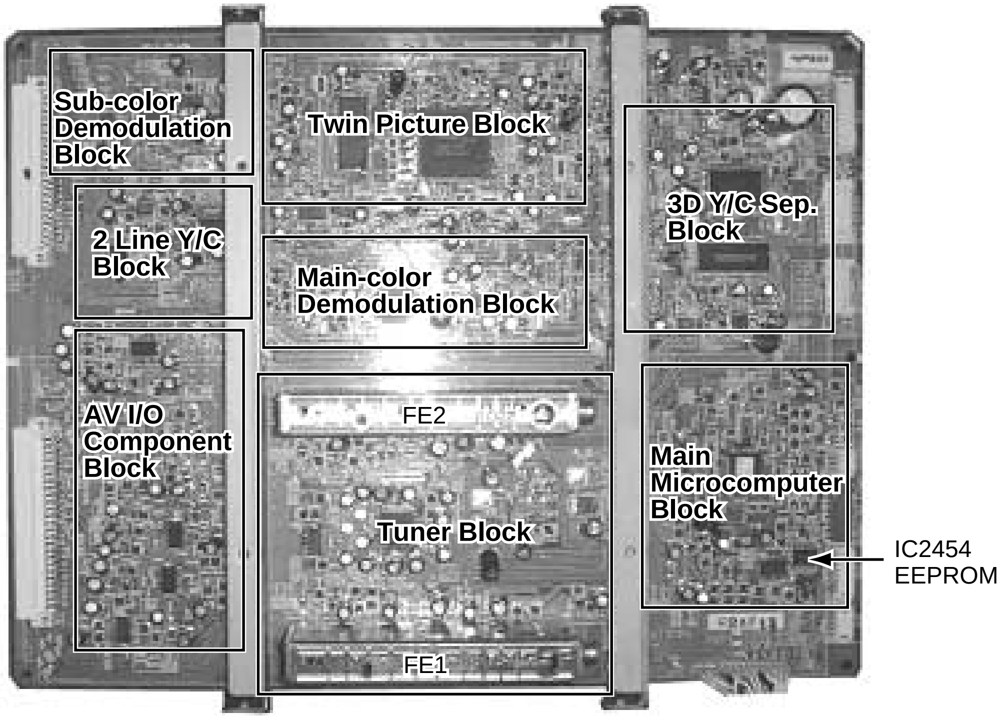
3.1.2 CONTROL BLOCK


3D & 2LINE Y/C SEP BLOCK
SCL3 SDA3
RS
COLOR DECORDER BLOCK
MMUTE SMUTE
SCL3 SDA3
IC6305 DAC IC CXA1315
SCL4 SDA4
SUB_SW MAIN_SW COMP_OX1 COMP_OX2 RGB.SEL
RGB.SEL
AV I/O BLOCK
SCL4 SDA4
V_OX1 V_OX2
TV_MUTE MON_MUTE V_F_MUTE V_F_SW CENT_SW
IC2453 RESET IC PST9146
RESET
IC2452 MAIN u-COM PD5717A
V.BLK0
SCL5 SDA5
TUNER2 BLOCK
HSYNC2 AFT2
IC2454 E2P ROM 24LC32A
E2PRST
E_SCL E_SDA
IC2451 I2C SW 4066
E_SCL E_SDA
I2C.SW
SCL1 SDA1
TUNER1 BLOCK
HSYNC1 AFT1 ANT.SW1 MTS.SW
WRITER
RESET
F_SCL F_SDA F_BUSY VPP PGM_OE
E_SCL E_SDA
AUTO WHITE BALANCE
IC1656 E2P ROM 24LC08A
CSCL1 CSDA1
SCCY
IC1652 CONVER u-COM PD5464
CSCL CSDA CBUSY
DH.BLK V.BLK0
C.MODE1 C.MODE2
V.DEF BLOCK
V.BLK2
V.SIZE.ADJ
CC3.R CC3.G CC3.B CC3.BLK
AUTO CONVER
IC1655 I2C SW 4066
CSCL2 CSDA2 CXBUSY CXACKM
CSCL2 CSDA2
CXSTOP CXOFDET CXMUTE CXRESET CXBUSY CXACKM
CXBUSY CXACKM
C.MUTE
ACSW
C.MUTE
POWER SUPPLY BLOCK
AC_CLK
RELAY
IC1410 E2P ROM 24LC128A
IC1421 I2C SW 4053
SCLM SDAM
CONVER GENCE BLOCK
CV.R CV.G CV.B CV.BLK
IC1654 OSD SW 74HC157
CV-R CV-G CV-B CV-BLK
RGB IN
RGB.SW
2
5
4
6

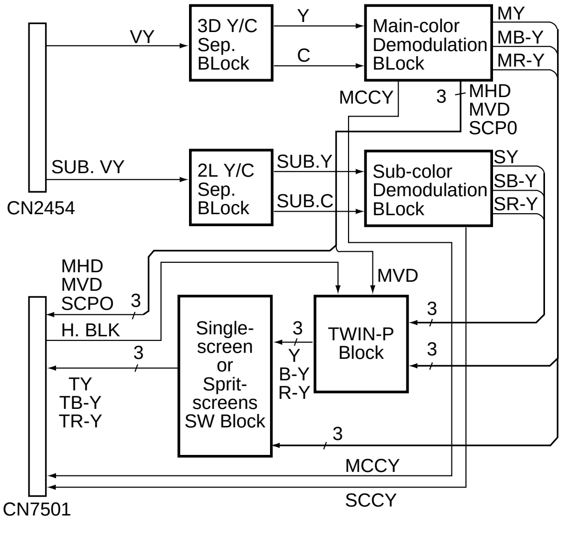

IC7103
IC7303
CCY SW
NJM2233
MCOMP.SW
SCOMP.SW
SCCY
MCCY
TWIN PICTURE BLOCK
RS
SCL3
SDA3
PASS
2
CLK
DATA
G.ENB
3
SYNC BLOCK
G.RST
2
DH.BLK
V.BLK0
V.BLK2
P_CLK
P_DATA
P_RST
P_BUSY
P_ERR
PLL_CLK
PLL_DATA
PLL_ENB
8
PROGRESSIVE BLOCK
2
VS
HS
VIDEO EQ/CP
SHARPNESS
FLESH TONE
BLOCK
2
OSD BLK
OSD HALF
AUX.SW
RGB.SEL
BLACKSW
SHARPSW
FLESH_TONE
VMCTL
SHARPNESS
DETAIL
EQ.SW
7
IC4304
DAC IC
CXA1315
2
H.SIZE.ADJ
H.PHA.ADJ
SCL2
SDA2
2
SCL2
SDA2
IC5254
DAC IC
CXA1315
V.SIZE.ADJ
R.MUTE
G.MUTE
B.MUTE
PANEL_WIDTH
PANEL_POS
ACL
LIN.WHITE
ASPECT.SW
IC2203
RESET IC
PST9146
MCCY
IC2201
SUB u-COM
PD5718A
DH.BLK
V.BLK0
2
4
S_CLK
S_DATA
S_ENB
S_BUSY
RESET
3
OSD.DATA
OSD.CLK
OSD.ENB
RESET
IC2204
OSD IC
PD0264A
DH.BLK
V.BLK0
2
CC1-R
CC1-G
CC1-B
CC1-BLK
4
IC2205
CCD SW
74HC157
4
CV-R
CV-G
CV-B
CV-BLK
CCD.R
CCD.G
CCD.B
CCD.BLK
4
8
OSD.R
OSD.G
OSD.B
3
OSD.BLK
OSD.HALF
2
AUX.SW
VIDEO BLOCK
V.MUTE
RGB.SEL
2
SCL2
SDA2
5
KEY
DPO
TMR LED
DTV LED
LED ON/OFF
2
A.MUTE1
A.MUTE2
AUDIO BLOCK
SCL2
SDA2
2
REM OUT
REM IN
SR
FRONT BLOCK
H.SIZE.ADJ
H.PHA.ADJ
DH.BLK
V.BLK0
2
H.DEF BLOCK
H.OSC.SW
REM IN

3.1.3 SIGNAL ASSY

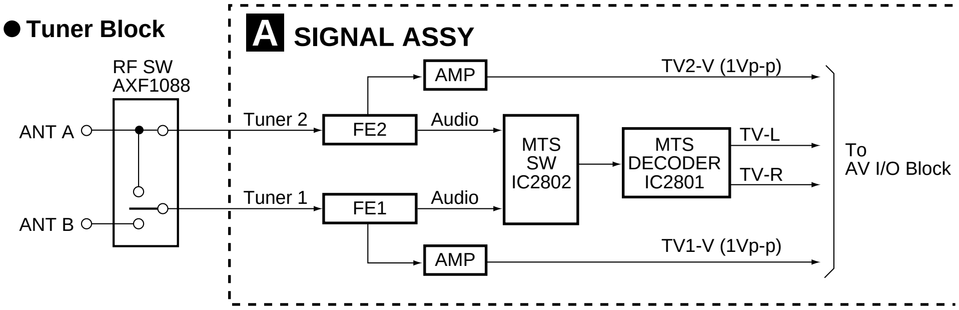
A SIGNAL ASSY


Sub-color Demodulation Block
Twin Picture Block
2 Line Y/C Block
Main-color Demodulation Block
3D Y/C Sep. Block
AV I/O Component Block
FE2
Main Microcomputer Block
Tuner Block
IC2454
EEPROM
FE1

- **Video Block**


VY
3D Y/C Sep. BLock
Y
C
Main-color Demodulation BLock
MY
MB-Y
MR-Y
MCCY
3
MHD
MVD
SCP0
SUB. VY
2L Y/C Sep. BLock
SUB.Y
SUB.C
Sub-color Demodulation BLock
SY
SB-Y
SR-Y
CN2454
MHD
MVD
SCPO
3
H. BLK
3
TY
TB-Y
TR-Y
Single-screen or Sprit-screens SW Block
3
Y
B-Y
R-Y
TWIN-P Block
MVD
3
3
3
MCCY
SCCY
CN7501

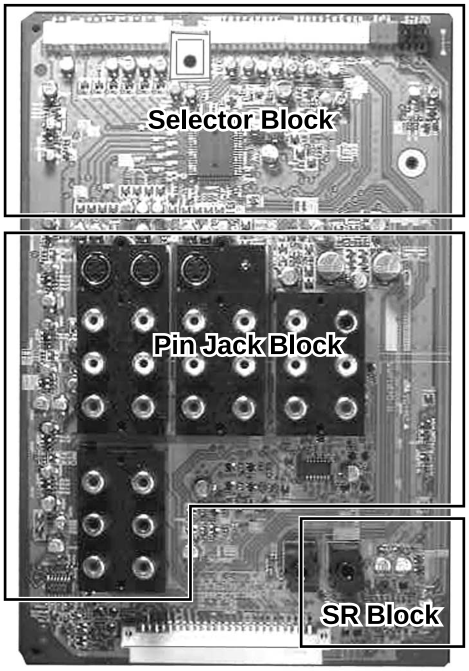
- **Tuner Block**


RF SW
AXF1088
ANT A
ANT B
A SIGNAL ASSY
Tuner 2
Tuner 1
FE2
FE1
AMP
AMP
Audio
Audio
MTS SW IC2802
MTS DECODER IC2801
TV2-V (1Vp-p)
TV-L
TV-R
TV1-V (1Vp-p)
To AV I/O Block

Note :
Main picture is able to receive the ANT A and B.
Sub picuture is able to receive the ANT A only.

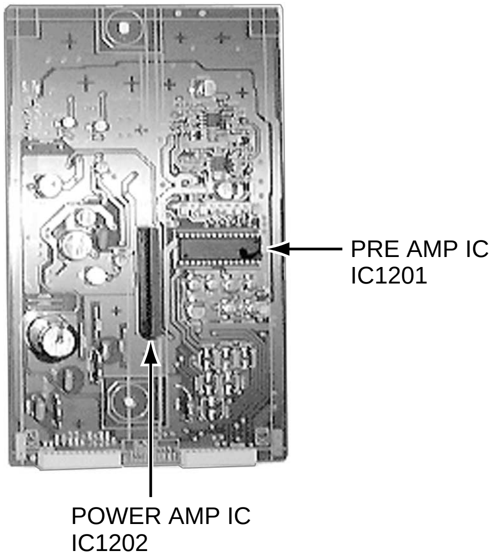
3.1.4 AV I/O and AUDIO ASSYS

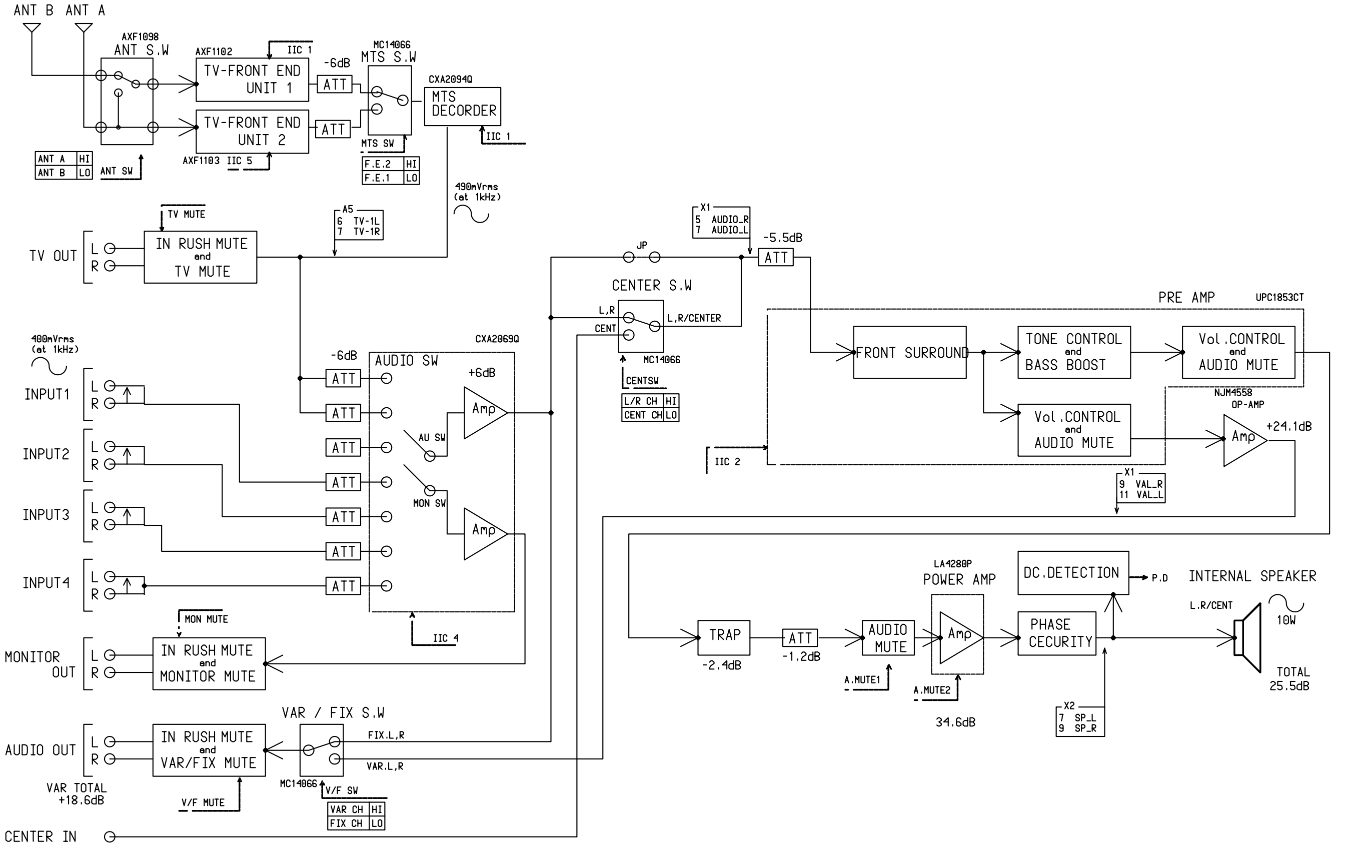
B AV I/O ASSY


Selector Block
Pin Jack Block
SR Block

NOTE) The AUDIO Assy show the state without the heat sink.
Please attach the heat sink when you install the AUDIO Assy.

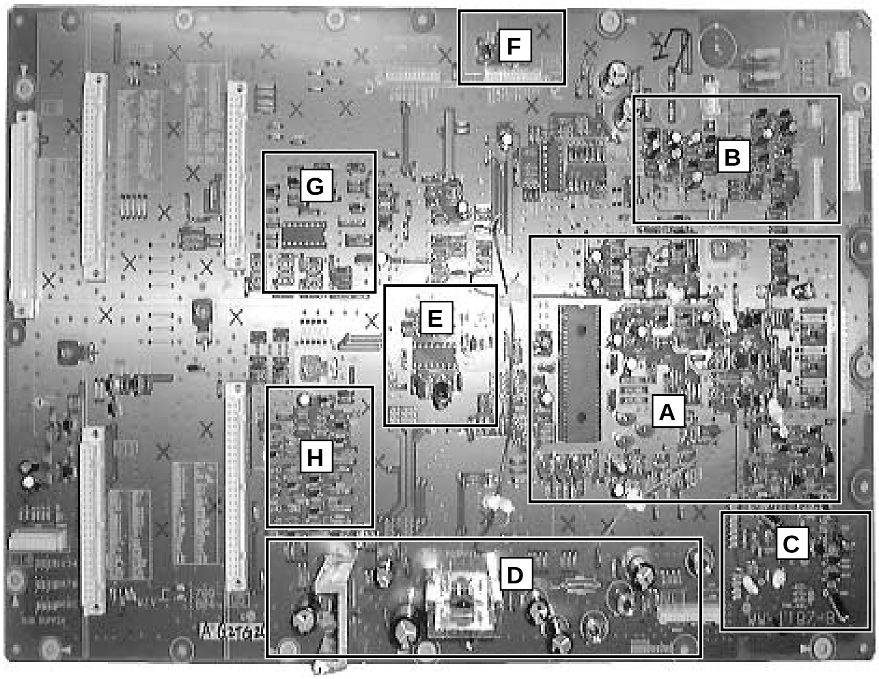
G AUDIO ASSY


PRE AMP IC
IC1201
POWER AMP IC
IC1202

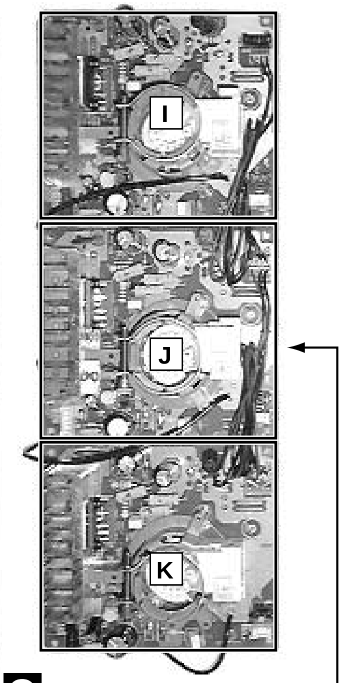

ANT B
ANT A
AXF1098
ANT S.W
AXF1102
IIC 1
TV-FRONT END UNIT 1
-6dB
ATT
MC14066
MTS S.W
CXA2094Q
MTS DECORDER
TV-FRONT END UNIT 2
ATT
IIC 1
ANT A HI
ANT B LO
ANT SW
AXF1103
IIC 5
MTS SW
F.E.2 HI
F.E.1 LO
490mVrms (at 1kHz)
TV MUTE
A5
6 TV-1L
7 TV-1R
TV OUT
L
R
IN RUSH MUTE and TV MUTE
X1
5 AUDIO_R
7 AUDIO_L
JP
-5.5dB
ATT
CENTER S.W
L,R
CENT
L,R/CENTER
MC14066
CENTSW
L/R CH HI
CENT CH LO
PRE AMP
UPC1853CT
FRONT SURROUND
TONE CONTROL and BASS BOOST
Vol.CONTROL and AUDIO MUTE
Vol.CONTROL and AUDIO MUTE
NJM4558
OP-AMP
Amp
+24.1dB
IIC 2
X1
9 VAL_R
11 VAL_L
400mVrms (at 1kHz)
INPUT1
INPUT2
INPUT3
INPUT4
-6dB
CXA2069Q
AUDIO SW
ATT
+6dB
Amp
AU SW
MON SW
Amp
IIC 4
MON MUTE
MONITOR OUT
IN RUSH MUTE and MONITOR MUTE
VAR / FIX S.W
AUDIO OUT
IN RUSH MUTE and VAR/FIX MUTE
FIX.L,R
VAR.L,R
VAR TOTAL +18.6dB
V/F MUTE
MC14066
V/F SW
VAR CH HI
FIX CH LO
CENTER IN
TRAP
-2.4dB
ATT
-1.2dB
AUDIO MUTE
A.MUTE1
LA4280P
POWER AMP
Amp
A.MUTE2
34.6dB
DC.DETECTION
P.D
PHASE CECURITY
X2
7 SP_L
9 SP_R
INTERNAL SPEAKER
L.R/CENT
10W
TOTAL 25.5dB

3.1.5 VIDEO, R, G and B CRT DRIVE ASSYS

E VIDEO ASSY

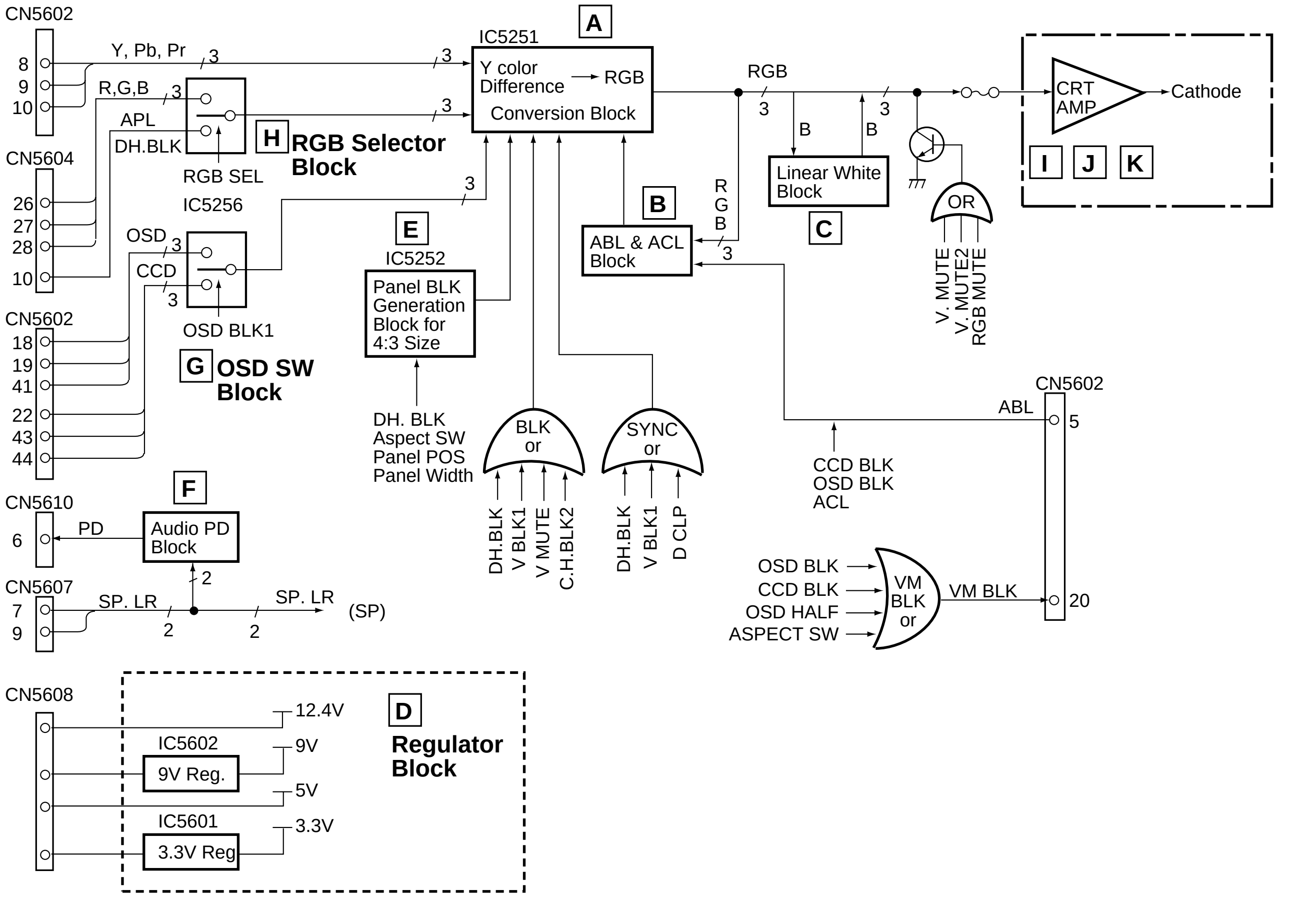


M R CRT DRIVE ASSY



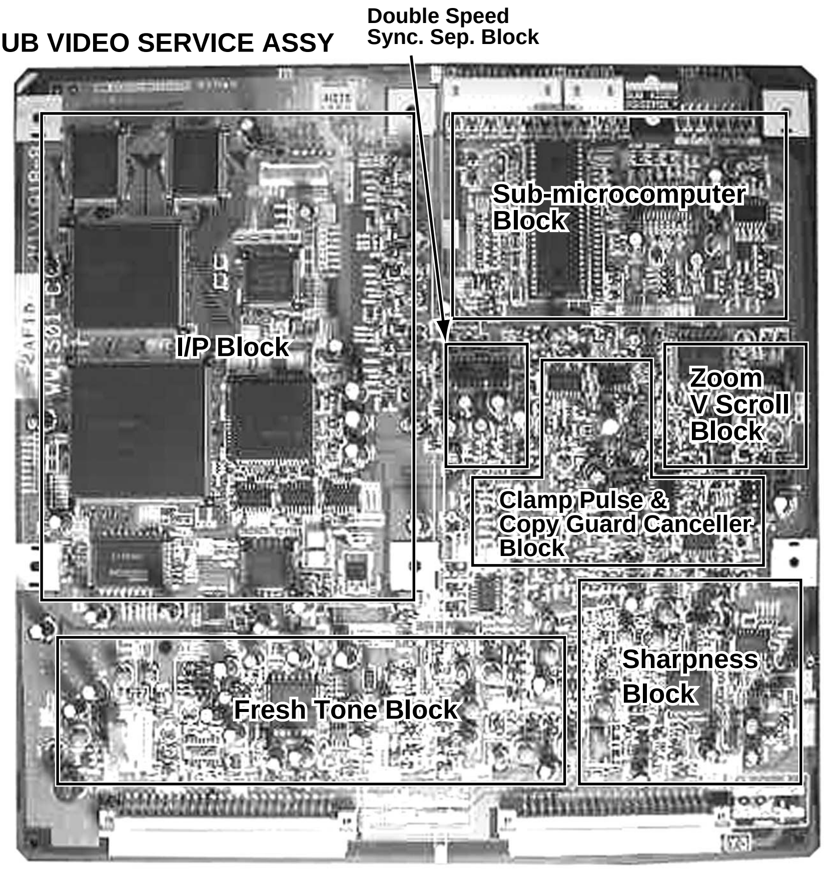
O B CRT DRIVE ASSY

N G CRT DRIVE ASSY

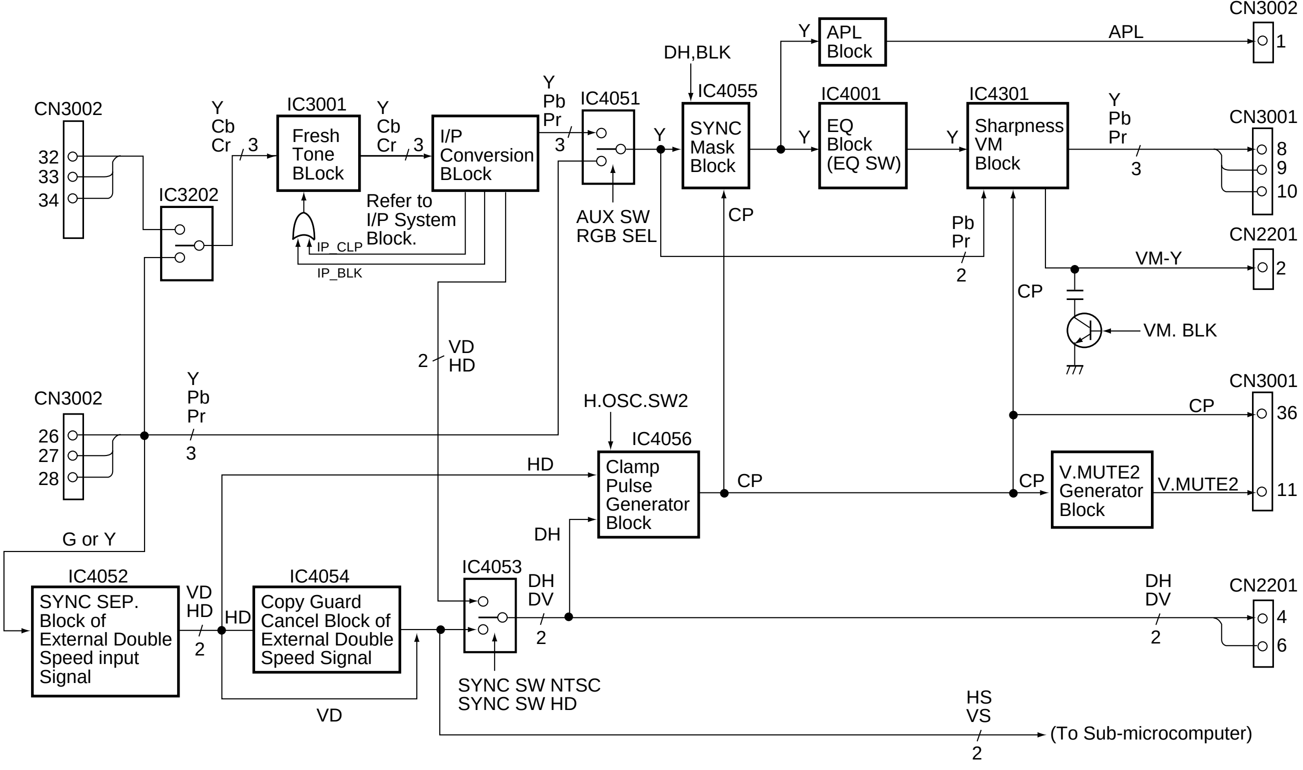

CN5602
8
9
10
Y, Pb, Pr
3
R,G,B
3
APL
DH.BLK
RGB SEL
H RGB Selector Block
CN5604
26
27
28
10
IC5256
OSD
3
CCD
3
OSD BLK1
G OSD SW Block
CN5602
18
19
41
22
43
44
A
IC5251
Y color Difference → RGB
Conversion Block
3
3
3
E
IC5252
Panel BLK Generation Block for 4:3 Size
DH. BLK
Aspect SW
Panel POS
Panel Width
BLK or
DH.BLK
V BLK1
V MUTE
C.H.BLK2
SYNC or
DH.BLK
V BLK1
D CLP
RGB
3
R G B
B
ABL & ACL Block
3
B
B
3
Linear White Block
C
OR
V. MUTE
V. MUTE2
RGB MUTE
CRT AMP
Cathode
I
J
K
CN5602
ABL
5
CCD BLK
OSD BLK
ACL
OSD BLK
CCD BLK
OSD HALF
ASPECT SW
VM BLK or
VM BLK
20
F
CN5610
6
PD
Audio PD Block
2
CN5607
7
9
SP. LR
2
SP. LR
2
(SP)
CN5608
12.4V
IC5602
9V Reg.
9V
5V
IC5601
3.3V Reg
3.3V
D
Regulator Block

3.1.6 SUB VIDEO SERVICE ASSY

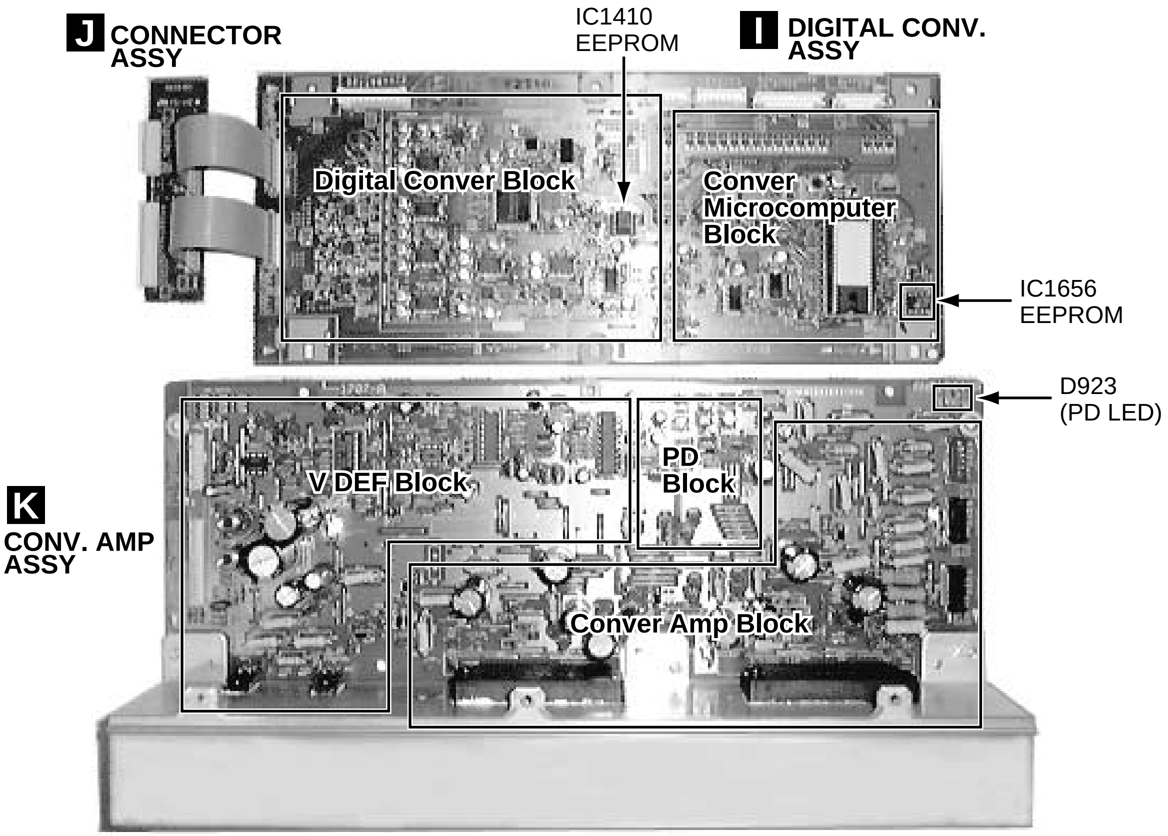
H SUB VIDEO SERVICE ASSY

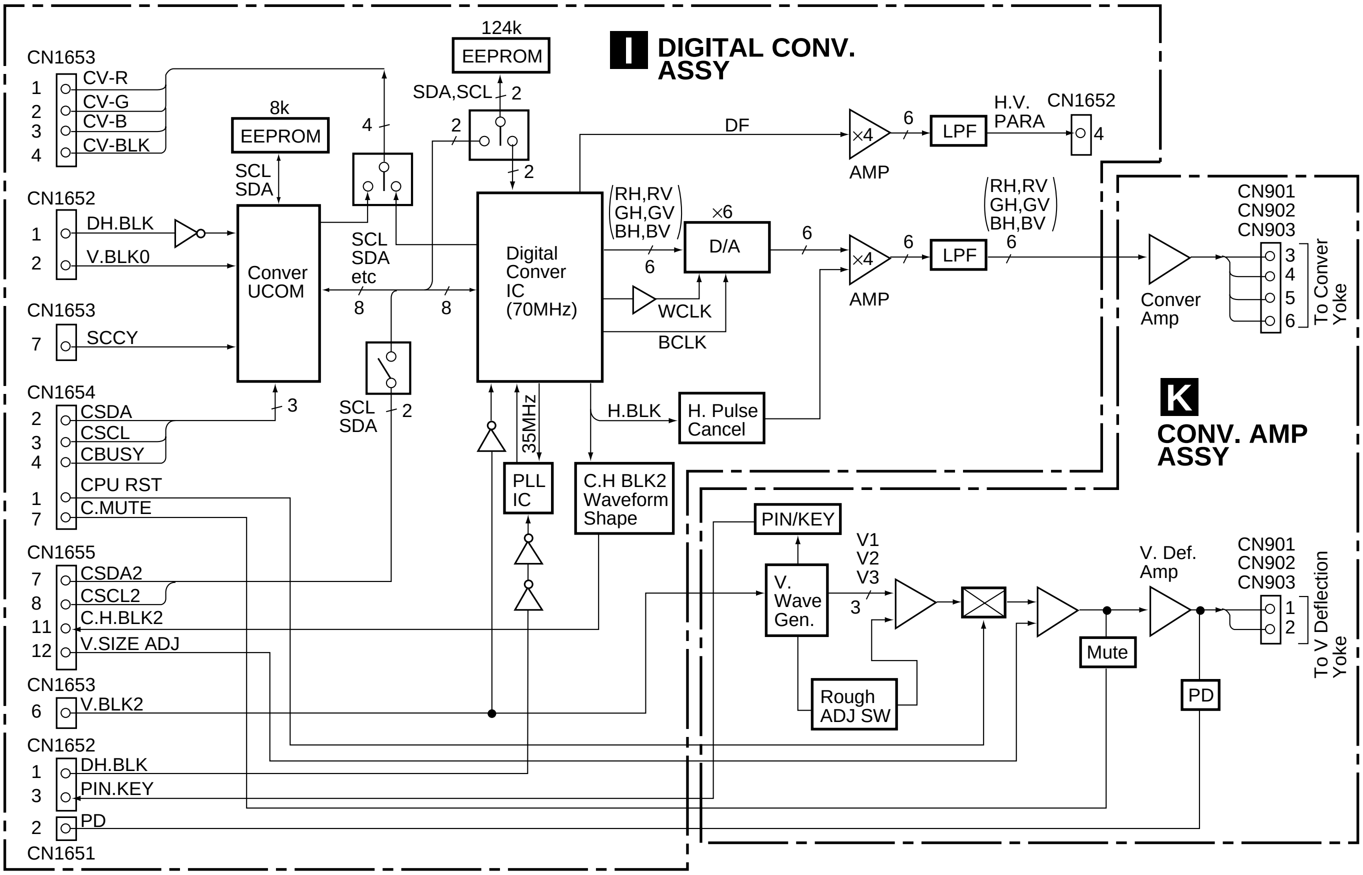

Double Speed
Sync. Sep. Block
Sub-microcomputer Block
I/P Block
Zoom V Scroll Block
Clamp Pulse & Copy Guard Canceller Block
Sharpness Block
Fresh Tone Block

● Sub Video Block


CN3002
32
33
34
IC3202
Y Cb Cr
3
IC3001
Fresh Tone BLock
IP_CLP
IP_BLK
Y Cb Cr
3
I/P Conversion BLock
Refer to I/P System Block.
Y Pb Pr
3
IC4051
AUX SW
RGB SEL
Y
DH,BLK
IC4055
SYNC Mask Block
CP
Y
APL Block
APL
CN3002
1
IC4001
Y
EQ Block (EQ SW)
Y
IC4301
Sharpness VM Block
Pb Pr
2
Y Pb Pr
3
CN3001
8
9
10
CN2201
VM-Y
2
CP
VM. BLK
2
VD HD
CN3002
26
27
28
Y Pb Pr
3
G or Y
H.OSC.SW2
IC4056
HD
Clamp Pulse Generator Block
CP
DH
CN3001
CP
36
CP
V.MUTE2 Generator Block
V.MUTE2
11
IC4052
SYNC SEP. Block of External Double Speed input Signal
VD HD
2
HD
IC4054
Copy Guard Cancel Block of External Double Speed Signal
VD
IC4053
DH DV
2
SYNC SW NTSC
SYNC SW HD
DH DV
2
CN2201
4
6
HS VS
2
(To Sub-microcomputer)

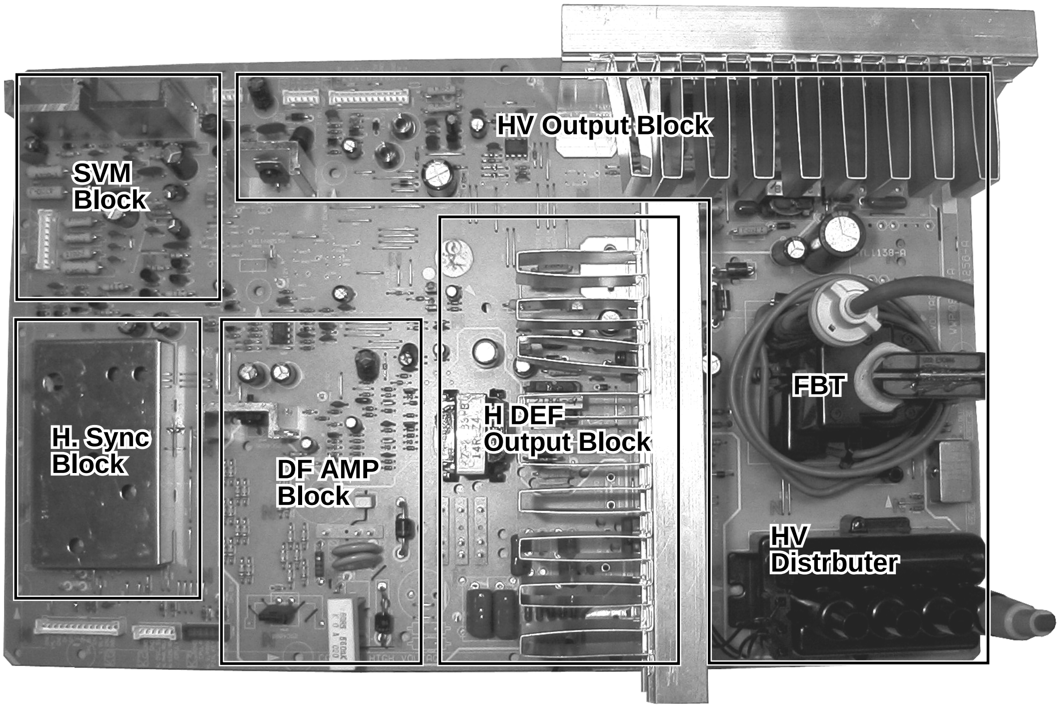
3.1.7 DIGITAL CONV., CONNECTOR and CONV. AMP ASSYS

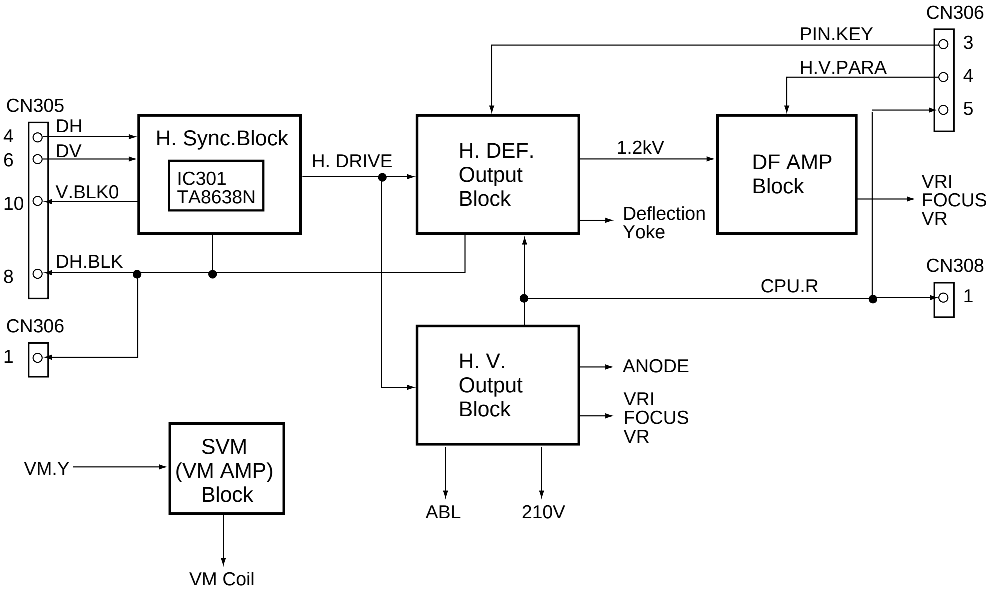

J CONNECTOR ASSY
IC1410 EEPROM
I DIGITAL CONV. ASSY
Digital Conver Block
Conver Microcomputer Block
IC1656 EEPROM
D923 (PD LED)
K CONV. AMP ASSY
V DEF Block
PD Block
Conver Amp Block


I DIGITAL CONV. ASSY
CN1653
1 CV-R
2 CV-G
3 CV-B
4 CV-BLK
CN1652
1 DH.BLK
2 V.BLK0
CN1653
7 SCCY
CN1654
2 CSDA
3 CSCL
4 CBUSY
1 CPU RST
7 C.MUTE
CN1655
7 CSDA2
8 CSCL2
11 C.H.BLK2
12 V.SIZE ADJ
CN1653
6 V.BLK2
CN1652
1 DH.BLK
3 PIN.KEY
2 PD
CN1651
8k EEPROM
SCL SDA
Conver UCOM
124k EEPROM
SDA,SCL 2
SCL SDA etc 8
Digital Conver IC (70MHz)
35MHz
PLL IC
C.H BLK2 Waveform Shape
SCL SDA 2
RH,RV GH,GV BH,BV
6
×6
D/A
WCLK
BCLK
H.BLK
H. Pulse Cancel
DF
×4 AMP
LPF
H.V. PARA
CN1652 4
RH,RV GH,GV BH,BV
Conver Amp
CN901 CN902 CN903
3 4 5 6
To Conver Yoke
K CONV. AMP ASSY
PIN/KEY
V. Wave Gen.
V1 V2 V3
Rough ADJ SW
Mute
V. Def. Amp
PD
CN901 CN902 CN903
1 2
To V Deflection Yoke

3.1.8 DEFLECTION SERVICE ASSY

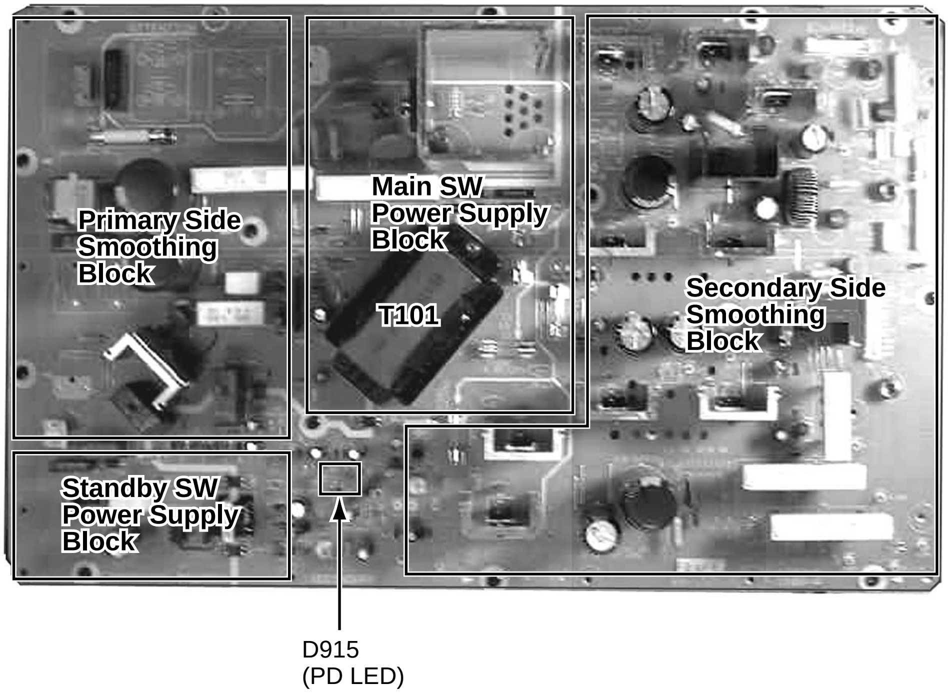
L DEFLECTION SERVICE ASSY

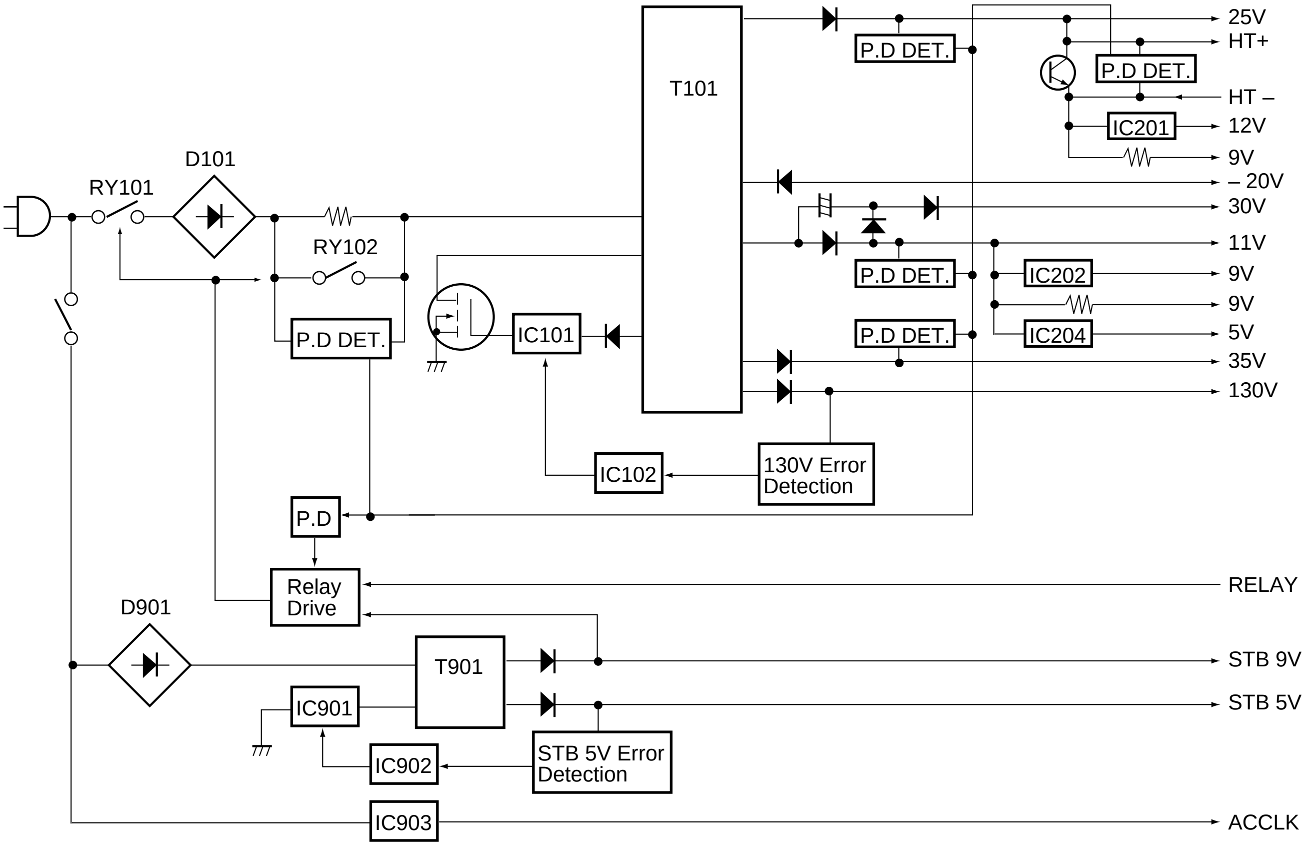

HV Output Block
SVM Block
H. Sync Block
DF AMP Block
H DEF Output Block
FBT
HV Distrbuter


CN306
PIN.KEY
3
H.V.PARA
4
5
CN305
4
6
10
8
DH
DV
V.BLK0
DH.BLK
H. Sync.Block
IC301
TA8638N
H. DRIVE
H. DEF.
Output
Block
1.2kV
DF AMP
Block
VRI
FOCUS
VR
Deflection
Yoke
CN308
1
CPU.R
CN306
1
H. V.
Output
Block
ANODE
VRI
FOCUS
VR
ABL
210V
VM.Y
SVM
(VM AMP)
Block
VM Coil

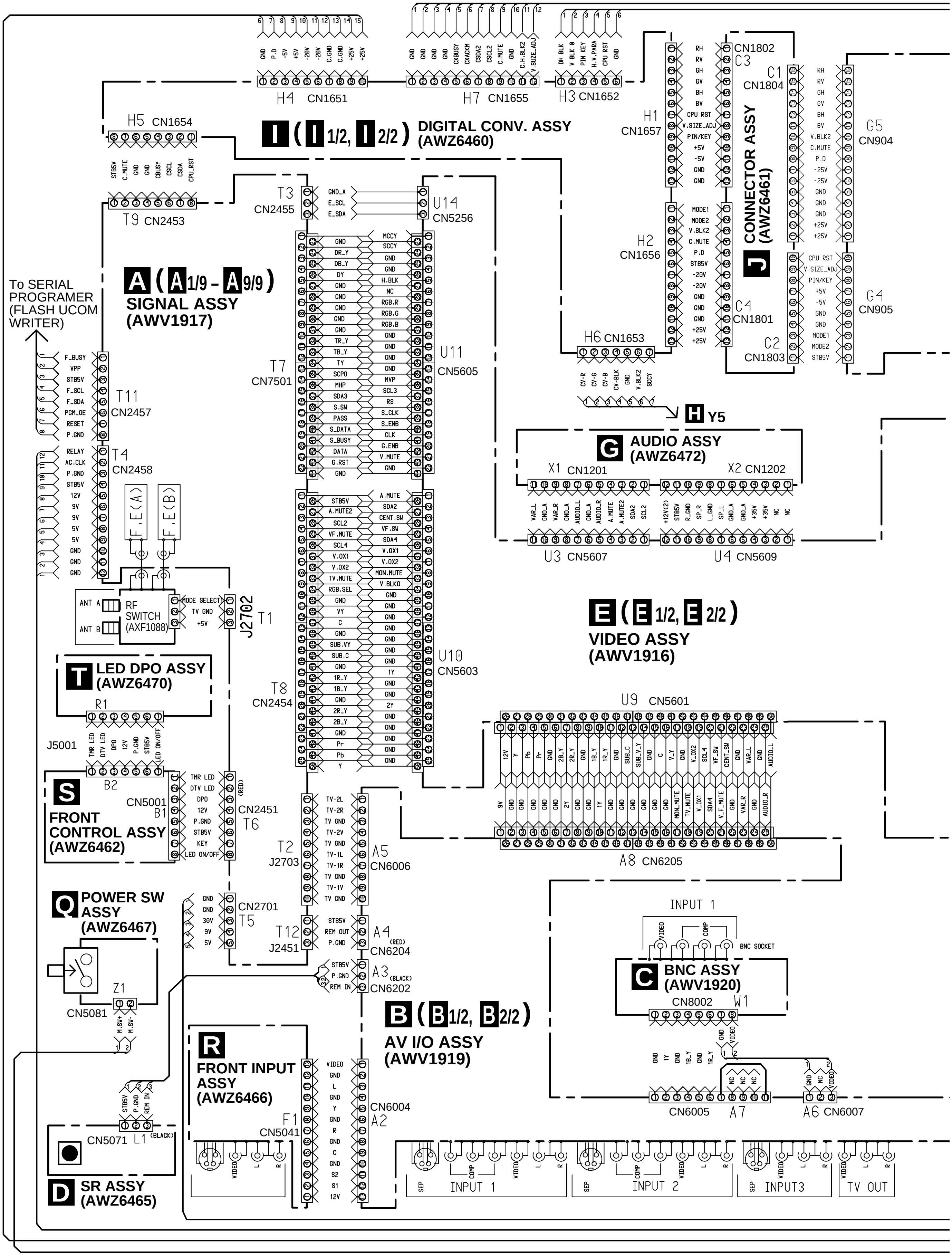
3.1.9 POWER SUPPLY ASSY

P POWER SUPPLY ASSY

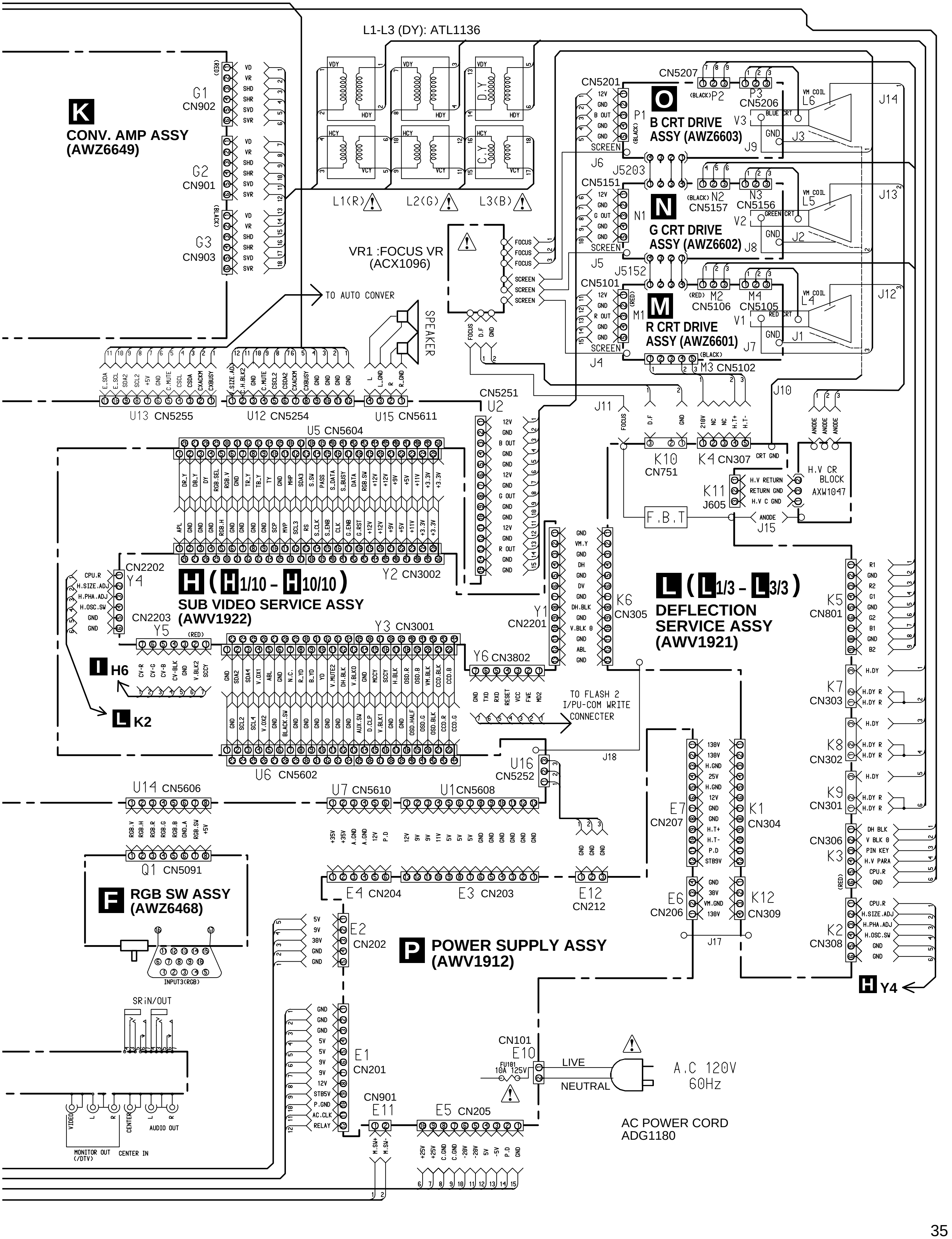

Primary Side Smoothing Block
Main SW Power Supply Block
T101
Secondary Side Smoothing Block
Standby SW Power Supply Block
D915
(PD LED)


T101
25V
HT+
P.D DET.
P.D DET.
HT –
IC201
12V
9V
D101
RY101
– 20V
30V
RY102
11V
P.D DET.
IC202
9V
9V
P.D DET.
IC101
P.D DET.
IC204
5V
35V
130V
IC102
130V Error Detection
P.D
RELAY
Relay Drive
D901
T901
STB 9V
STB 5V
IC901
IC902
STB 5V Error Detection
IC903
ACCLK

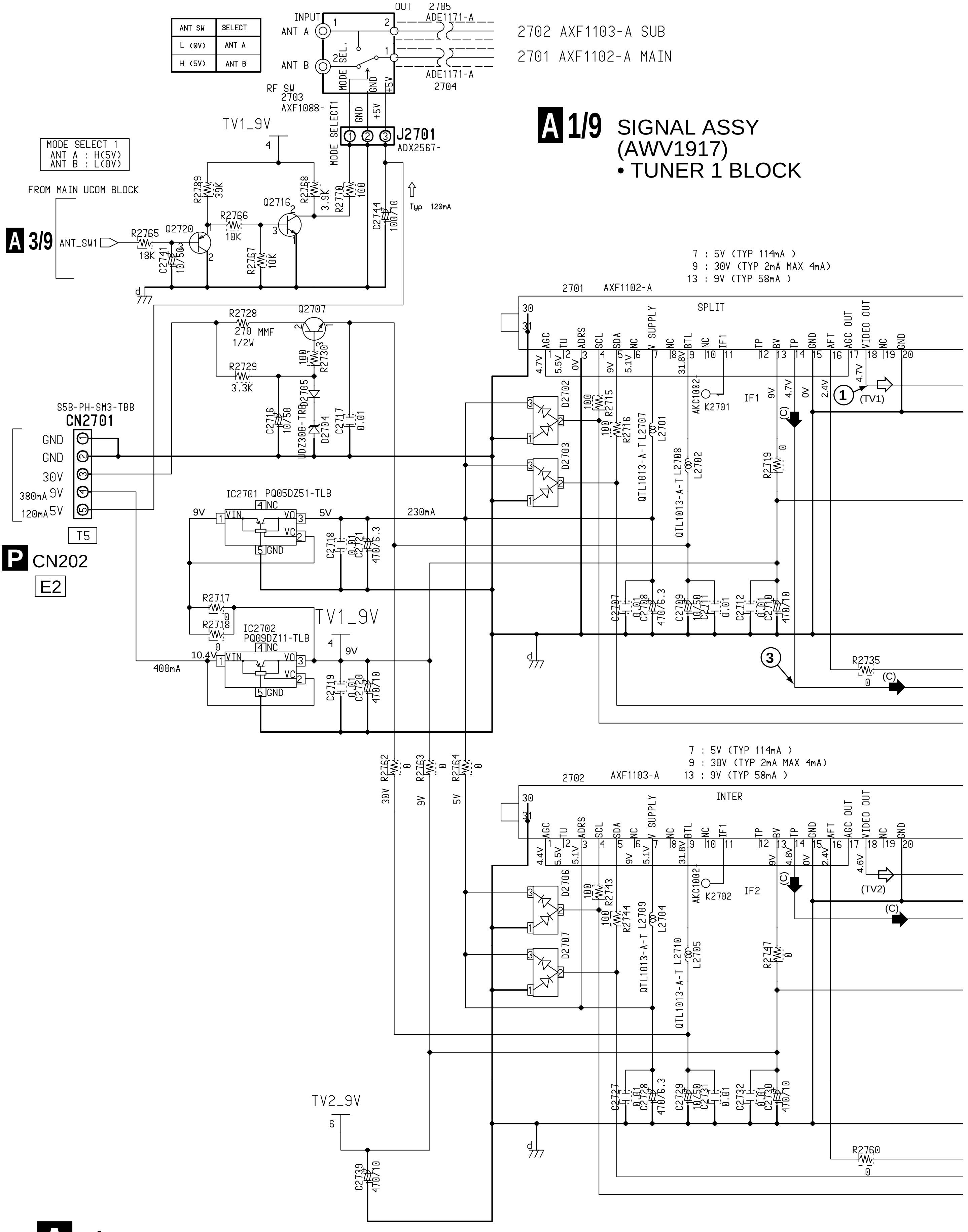
3.2 OVERALL CONNECTION DIAGRAM


I (I 1/2, I 2/2) DIGITAL CONV. ASSY (AWZ6460)
H4 CN1651
H7 CN1655
H3 CN1652
H5 CN1654
T9 CN2453
T3 CN2455
U14 CN5256
H1 CN1657
H2 CN1656
H6 CN1653
CN1802 C3
C1 CN1804
C4 CN1801
C2 CN1803
J CONNECTOR ASSY (AWZ6461)
G5 CN904
G4 CN905
H Y5
A (A 1/9 - A 9/9) SIGNAL ASSY (AWV1917)
To SERIAL PROGRAMER (FLASH UCOM WRITER)
T11 CN2457
T4 CN2458
F.E(A)
F.E(B)
RF SWITCH (AXF1088)
ANT A
ANT B
J2702 T1
T7 CN7501
U11 CN5605
T8 CN2454
U10 CN5603
G AUDIO ASSY (AWZ6472)
X1 CN1201
X2 CN1202
U3 CN5607
U4 CN5609
E (E 1/2, E 2/2) VIDEO ASSY (AWV1916)
U9 CN5601
A8 CN6205
T LED DPO ASSY (AWZ6470)
R1
J5001
B2
S FRONT CONTROL ASSY (AWZ6462)
CN5001 B1
CN2451 T6
T2 J2703
A5 CN6006
Q POWER SW ASSY (AWZ6467)
CN2701 T5
T12 J2451
A4 CN6204
A3 CN6202
Z1 CN5081
B (B 1/2, B 2/2) AV I/O ASSY (AWV1919)
INPUT 1
BNC SOCKET
C BNC ASSY (AWV1920)
CN8002 W1
R FRONT INPUT ASSY (AWZ6466)
F1 CN5041
CN6004 A2
CN6005 A7
A6 CN6007
CN5071 L1 (BLACK)
D SR ASSY (AWZ6465)
SEP INPUT 1
SEP INPUT 2
SEP INPUT3
TV OUT

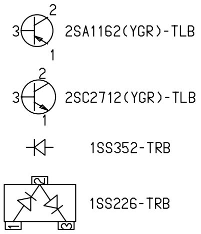
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".


L1-L3 (DY): ATL1136
VDY
HDY
HCY
VCY
L1(R)
L2(G)
L3(B)
K
CONV. AMP ASSY
(AWZ6649)
G1 CN902
G2 CN901
G3 CN903
VR1 :FOCUS VR
(ACX1096)
TO AUTO CONVER
SPEAKER
FOCUS
SCREEN
O
B CRT DRIVE
ASSY (AWZ6603)
CN5201
CN5207
CN5206
P1
P2
P3
L6
J14
V3
J3
J9
J6
J5203
N
G CRT DRIVE
ASSY (AWZ6602)
CN5151
CN5157
CN5156
N1
N2
N3
L5
J13
V2
J2
J8
J5
J5152
M
R CRT DRIVE
ASSY (AWZ6601)
CN5101
CN5106
CN5105
M1
M2
M4
L4
J12
V1
J1
J7
J4
M3 CN5102
VM COIL
BLUE CRT
GREEN CRT
RED CRT
U13 CN5255
U12 CN5254
U15 CN5611
CN5251
U2
J11
J10
U5 CN5604
K10
CN751
K4 CN307
K11
J605
H.V CR BLOCK
AXW1047
F.B.T
J15
ANODE
Y2 CN3002
CN2202
Y4
H (H1/10 – H10/10)
SUB VIDEO SERVICE ASSY
(AWV1922)
CN2203
Y5
Y3 CN3001
I H6
L K2
Y1
CN2201
K6
CN305
Y6 CN3802
L (L1/3 – L3/3)
DEFLECTION
SERVICE ASSY
(AWV1921)
K5
CN801
TO FLASH 2
I/PU-COM WRITE
CONNECTER
U6 CN5602
U16
CN5252
J18
K7 CN303
K8 CN302
K9 CN301
U14 CN5606
U7 CN5610
U1 CN5608
E7
CN207
K1
CN304
K3
CN306
Q1 CN5091
F
RGB SW ASSY
(AWZ6468)
E4 CN204
E3 CN203
E12
CN212
E6
CN206
K12
CN309
K2
CN308
E2
CN202
P
POWER SUPPLY ASSY
(AWV1912)
J17
H Y4
INPUT3(RGB)
SRiN/OUT
E1
CN201
CN101
E10
FU101
10A 125V
LIVE
NEUTRAL
A.C 120V
60Hz
AC POWER CORD
ADG1180
CN901
E11
E5 CN205
MONITOR OUT (/DTV)
CENTER IN
AUDIO OUT

3.3 SIGNAL ASSY (1/9)

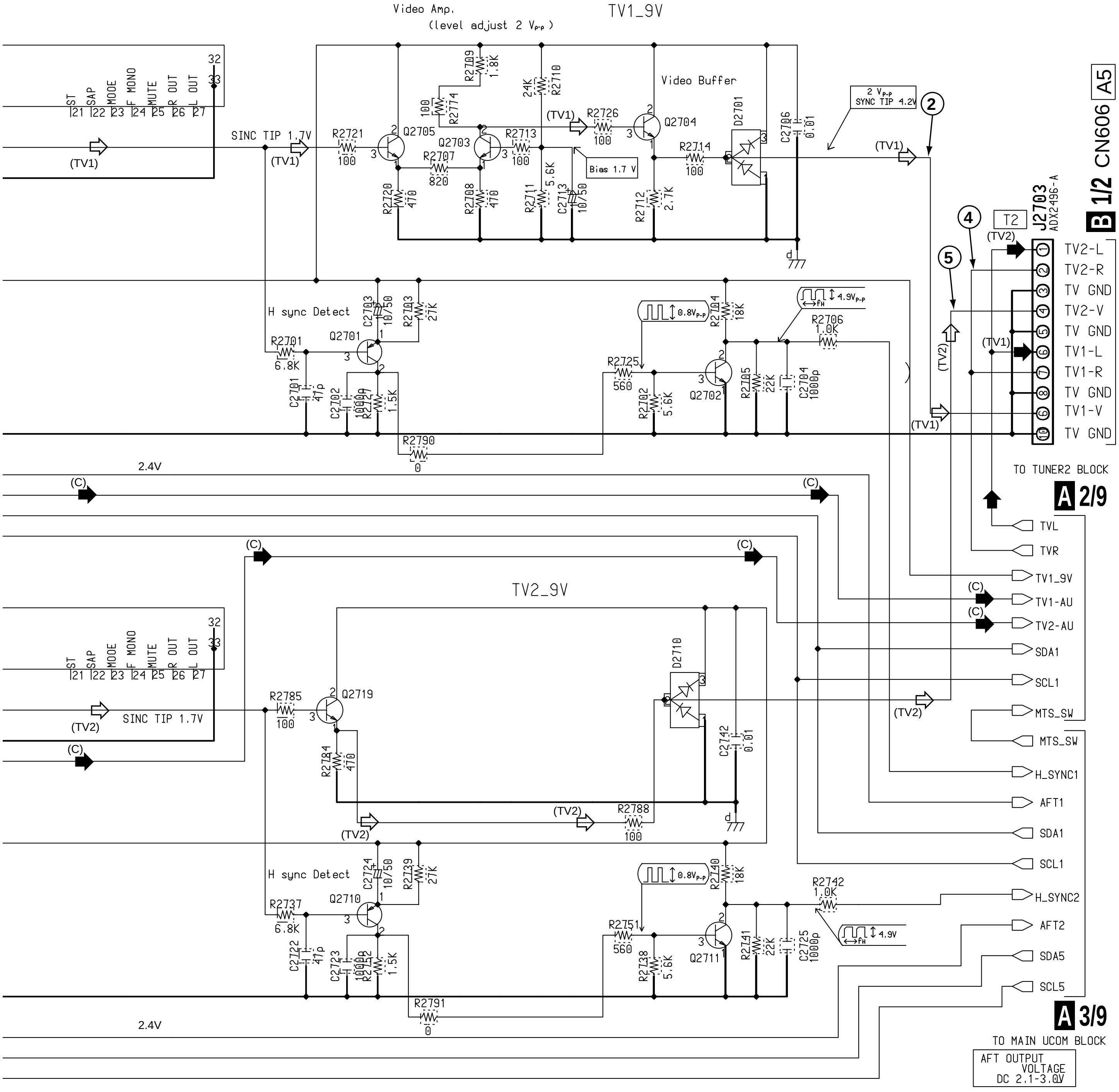

A 1/9 SIGNAL ASSY (AWV1917)
• TUNER 1 BLOCK
ANT SW | SELECT
L (0V) | ANT A
H (5V) | ANT B
INPUT
ANT A
ANT B
SEL.
MODE
GND
+5V
OUT
2705 ADE1171-A
2704 ADE1171-A
2702 AXF1103-A SUB
2701 AXF1102-A MAIN
RF SW 2703 AXF1088-
J2701 ADX2567-
MODE SELECT1
MODE SELECT 1
ANT A : H(5V)
ANT B : L(0V)
FROM MAIN UCOM BLOCK
A 3/9
ANT_SW1
TV1_9V
Typ 120mA
R2789 39K
R2768 3.9K
R2770 100
C2744 100/10
Q2716
R2766 10K
R2765 18K
Q2720
C2741 10/50
R2767 10K
R2728 270 MMF 1/2W
Q2707
R2730 100
R2729 3.3K
D2705
C2716 10/50
UDZ30B-TRB D2704
C2717 0.01
S5B-PH-SM3-TBB
CN2701
GND
GND
30V
380mA 9V
120mA 5V
T5
P CN202
E2
IC2701 PQ05DZ51-TLB
9V
VIN
VO
VC
NC
GND
5V
230mA
C2718 0.01
C2721 470/6.3
R2717 0
R2718 0
IC2702 PQ09DZ11-TLB
TV1_9V
10.4V
400mA
9V
C2719 0.01
C2720 470/10
R2762 0
R2763 0
R2764 0
30V
9V
5V
TV2_9V
C2739 470/10
7 : 5V (TYP 114mA)
9 : 30V (TYP 2mA MAX 4mA)
13 : 9V (TYP 58mA)
2701 AXF1102-A
SPLIT
AGC TU ADRS SCL SDA NC V SUPPLY NC BTL NC IF1 TP BV TP GND AFT AGC OUT VIDEO OUT NC GND
4.7V 5.5V 0V 9V 5.1V 31.8V 9V 4.7V 0V 2.4V 4.7V
D2702
D2703
R2715 100
R2716 100
QTL1013-A-T L2707
L2701
QTL1013-A-T L2708
L2702
AKC1002-
K2701
IF1
R2719 0
① (TV1)
(C)
C2707 0.01
C2708 470/6.3
C2709 10/50
C2711 0.01
C2712 0.01
C2710 470/10
③
R2735 0
7 : 5V (TYP 114mA)
9 : 30V (TYP 2mA MAX 4mA)
13 : 9V (TYP 58mA)
2702 AXF1103-A
INTER
4.4V 5.5V 5.1V 9V 5.1V 31.8V 9V 4.8V 0V 2.4V 4.6V
D2706
D2707
R2743 100
R2744 100
QTL1013-A-T L2709
L2704
QTL1013-A-T L2710
L2705
AKC1002-
K2702
IF2
R2747 0
(TV2)
C2727 0.01
C2728 470/6.3
C2729 10/50
C2731 0.01
C2732 0.01
C2730 470/10
R2760 0

Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k kΩ
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless
otherwise noted p pF
Indication without voltage is 50V except electrolytic capacitor.



2SA1162(YGR)-TLB
2SC2712(YGR)-TLB
1SS352-TRB
1SS226-TRB

(C) ➡ : COMPOSITE AUDIO SIGNAL ROUTE
(TV1) ⇨ : VIDEO SIGNAL ROUTE (TV1)
(TV2) ⇨ : VIDEO SIGNAL ROUTE (TV2)
➡ : AUDIO SIGNAL ROUTE
(TV1) ➡ : AUDIO SIGNAL ROUTE (TV1)
(TV2) ➡ : AUDIO SIGNAL ROUTE (TV2)

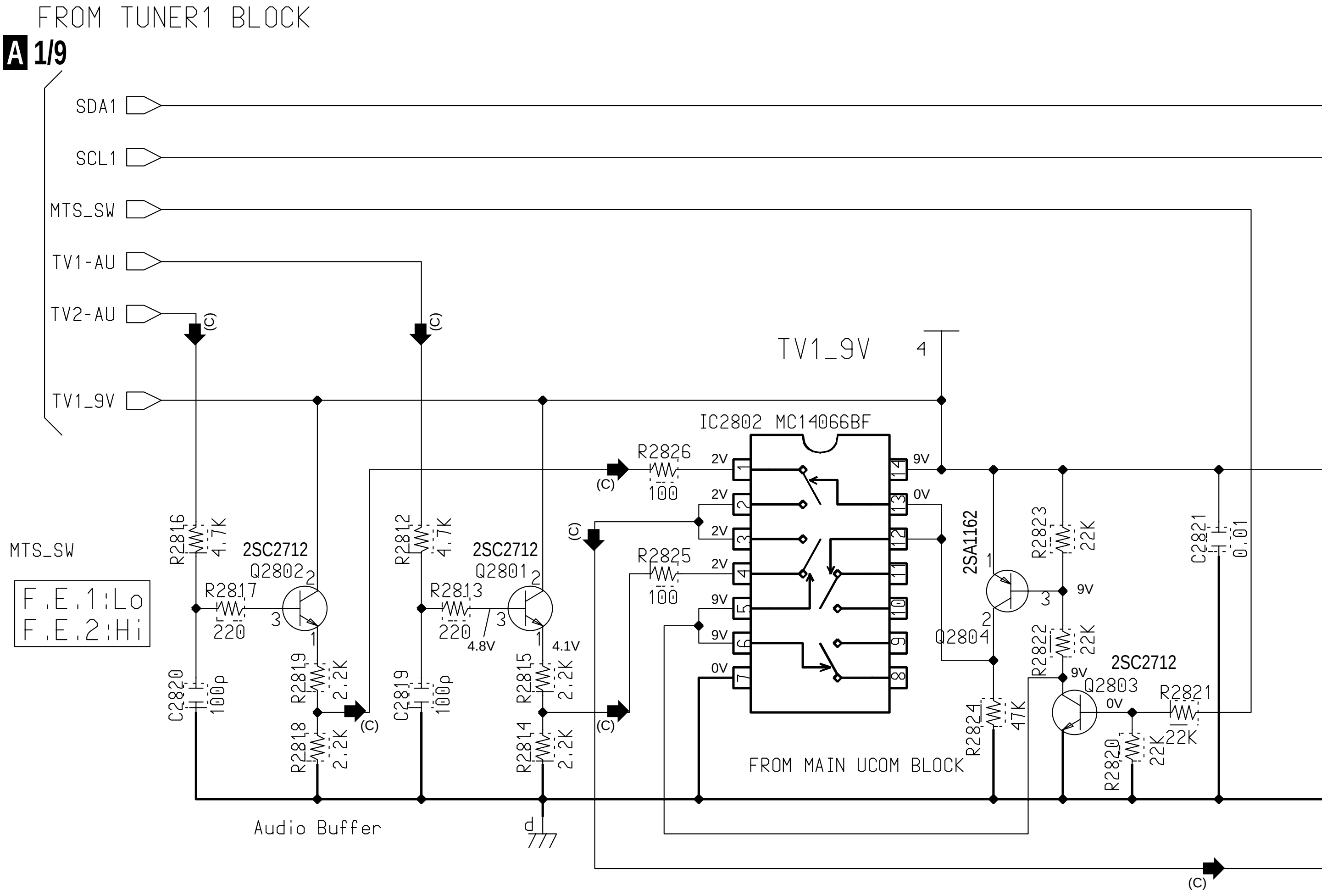


Video Amp.
(level adjust 2 Vp-p)
TV1_9V
Video Buffer
ST SAP MODE F MONO MUTE R OUT L OUT
21 22 23 24 25 26 27 32 33
SINC TIP 1.7V
(TV1)
R2721 100
Q2705
Q2703
R2707 820
R2709 1.8K
R2774 100
R2710 24K
R2713 100
R2726 100
Q2704
Bias 1.7 V
R2720 470
R2708 470
R2711 5.6K
C2713 10/50
R2712 2.7K
R2714 100
D2701
C2706 0.01
2 Vp-p SYNC TIP 4.2V
2
H sync Detect
C2703 10/50
R2703 27K
Q2701
R2701 6.8K
C2701 47p
C2702 1000p
R2727 1.5K
R2790 0
0.8Vp-p
R2704 18K
4.9Vp-p
R2706 1.0K
R2725 560
Q2702
R2702 5.6K
R2705 22K
C2704 1000p
4
5
T2
J2703 ADX2496-A
B 1/2 CN606 A5
TV2-L
TV2-R
TV GND
TV2-V
TV GND
TV1-L
TV1-R
TV GND
TV1-V
TV GND
TO TUNER2 BLOCK
A 2/9
2.4V
(C)
TVL
TVR
TV1_9V
TV1-AU
TV2-AU
SDA1
SCL1
MTS_SW
MTS_SW
H_SYNC1
AFT1
SDA1
SCL1
H_SYNC2
AFT2
SDA5
SCL5
TV2_9V
D2710
R2785 100
Q2719
(TV2)
R2784 470
C2742 0.01
R2788 100
C2724 10/50
R2739 27K
Q2710
R2737 6.8K
C2722 47p
C2723 1000p
R2752 1.5K
R2791 0
R2740 18K
R2742 1.0K
R2751 560
Q2711
R2738 5.6K
R2741 22K
C2725 1000p
4.9V
A 3/9
TO MAIN UCOM BLOCK
AFT OUTPUT VOLTAGE DC 2.1-3.0V

3.4 SIGNAL ASSY (2/9)

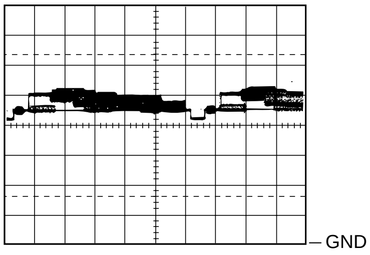
A 2/9 SIGNAL ASSY
(AWV1917)
• TUNER 2 BLOCK

(C) ➡ : COMPOSITE AUDIO SIGNAL ROUTE
➡ : AUDIO SIGNAL ROUTE

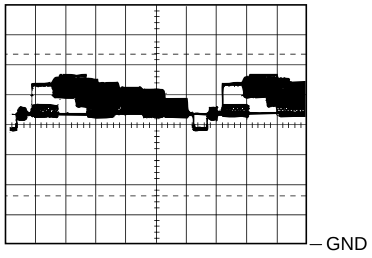

FROM TUNER1 BLOCK
A 1/9
SDA1
SCL1
MTS_SW
TV1-AU
TV2-AU
TV1_9V
(C)
TV1_9V 4
IC2802 MC14066BF
R2826 100
R2825 100
2V
2V
2V
2V
9V
9V
0V
9V
0V
MTS_SW
F.E.1:Lo
F.E.2:Hi
R2816 4.7K
R2817 220
2SC2712 Q2802
C2820 100p
R2819 2.2K
R2818 2.2K
R2812 4.7K
R2813 220
2SC2712 Q2801
4.8V
4.1V
C2819 100p
R2815 2.2K
R2814 2.2K
2SA1162 Q2804
R2823 22K
R2822 22K
R2824 47K
2SC2712 Q2803
R2821 22K
R2820 22K
C2821 0.01
FROM MAIN UCOM BLOCK
Audio Buffer
d

A 1/9

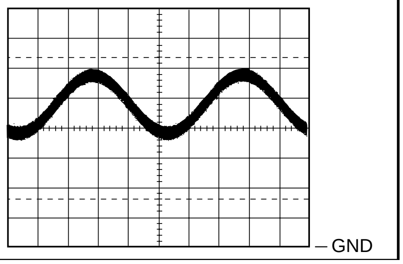
① **2701-pin 18**
V: 1V/div. H: 10µsec/div.

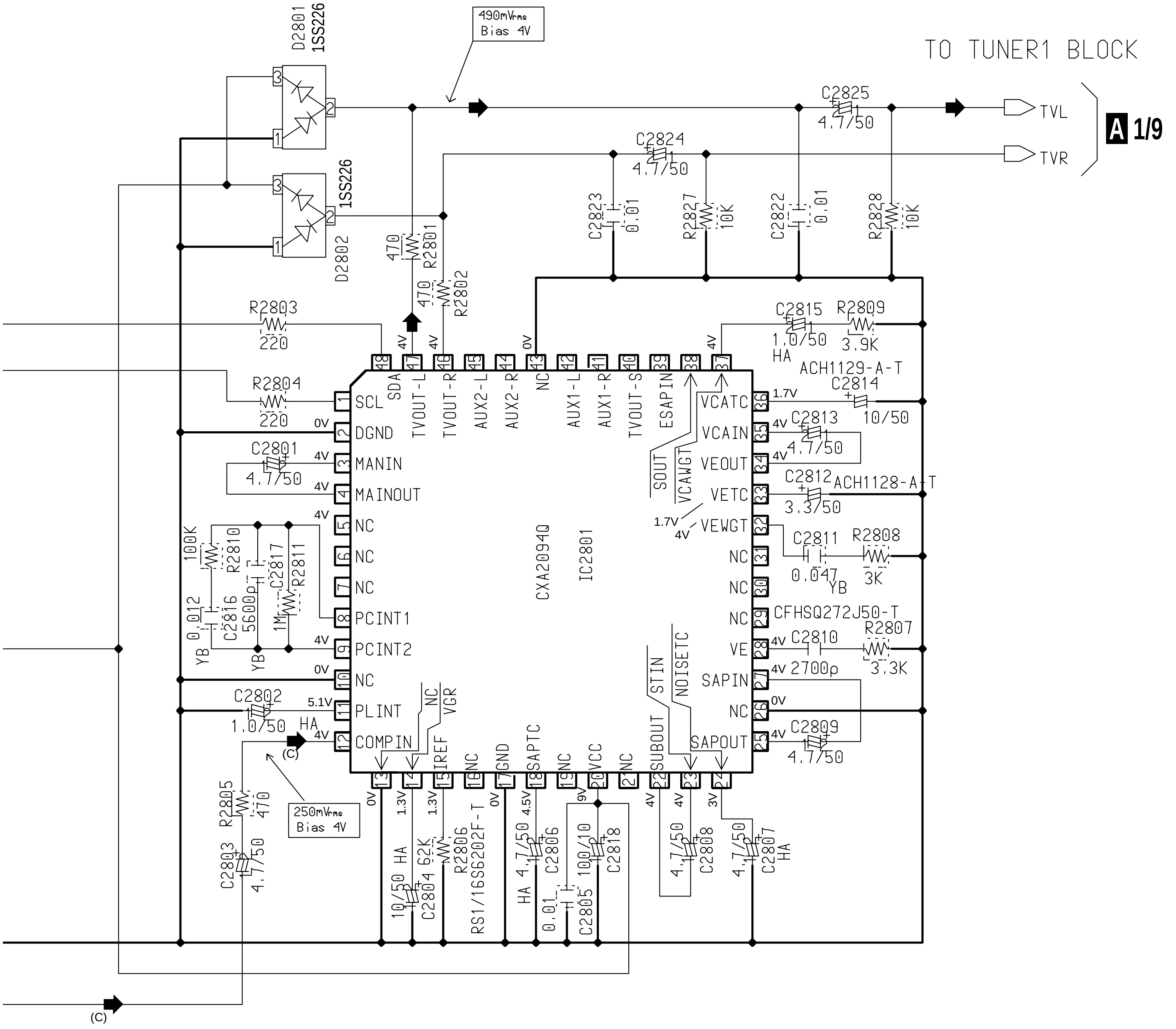


② **J2703-pin 9**
V: 1V/div. H: 10µsec/div.

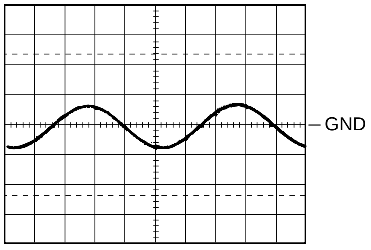


③ **2701-pin 14**
V: 1V/div. H: 200µsec/div.

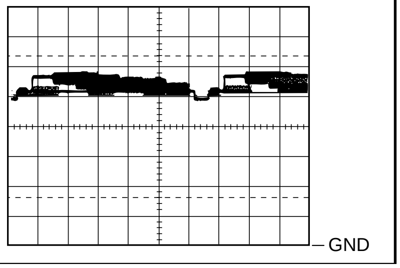



TO TUNER1 BLOCK
490mVrms Bias 4V
D2801 1SS226
D2802 1SS226
C2825 4.7/50
C2824 4.7/50
TVL
TVR
A 1/9
C2823 0.01
R2827 10K
C2822 0.01
R2828 10K
R2801 470
R2802 470
R2803 220
R2804 220
C2815 1.0/50 HA
R2809 3.9K
ACH1129-A-T
C2814 10/50
C2813 4.7/50
C2812 3.3/50
ACH1128-A-T
C2811 0.047 YB
R2808 3K
CFHSQ272J50-T
C2810 2700p
R2807 3.3K
C2809 4.7/50
C2801 4.7/50
R2810 100K
C2817 5600p
R2811 1M
C2816 0.012 YB
YB
C2802 1.0/50 HA
R2805 470
C2803 4.7/50
250mVrms Bias 4V
(C)
CXA2094Q
IC2801
SCL
DGND
MANIN
MAINOUT
NC
NC
NC
PCINT1
PCINT2
NC
PLINT
COMPIN
SDA
TVOUT-L
TVOUT-R
AUX2-L
AUX2-R
NC
AUX1-L
AUX1-R
TVOUT-S
ESAPIN
SOUT
VCAWGT
VCATC
VCAIN
VEOUT
VETC
VEWGT
NC
NC
NC
VE
SAPIN
NC
SAPOUT
STIN
NOISETC
NC
VGR
IREF
NC
GND
SAPTC
NC
VCC
NC
SUBOUT
0V
4V
1.7V
5.1V
1.3V
4.5V
9V
3V
C2804 10/50 HA
R2806 62K RS1/16S6202F-T
C2806 4.7/50 HA
C2805 0.01
C2818 100/10
C2808 4.7/50
C2807 4.7/50 HA
(C)

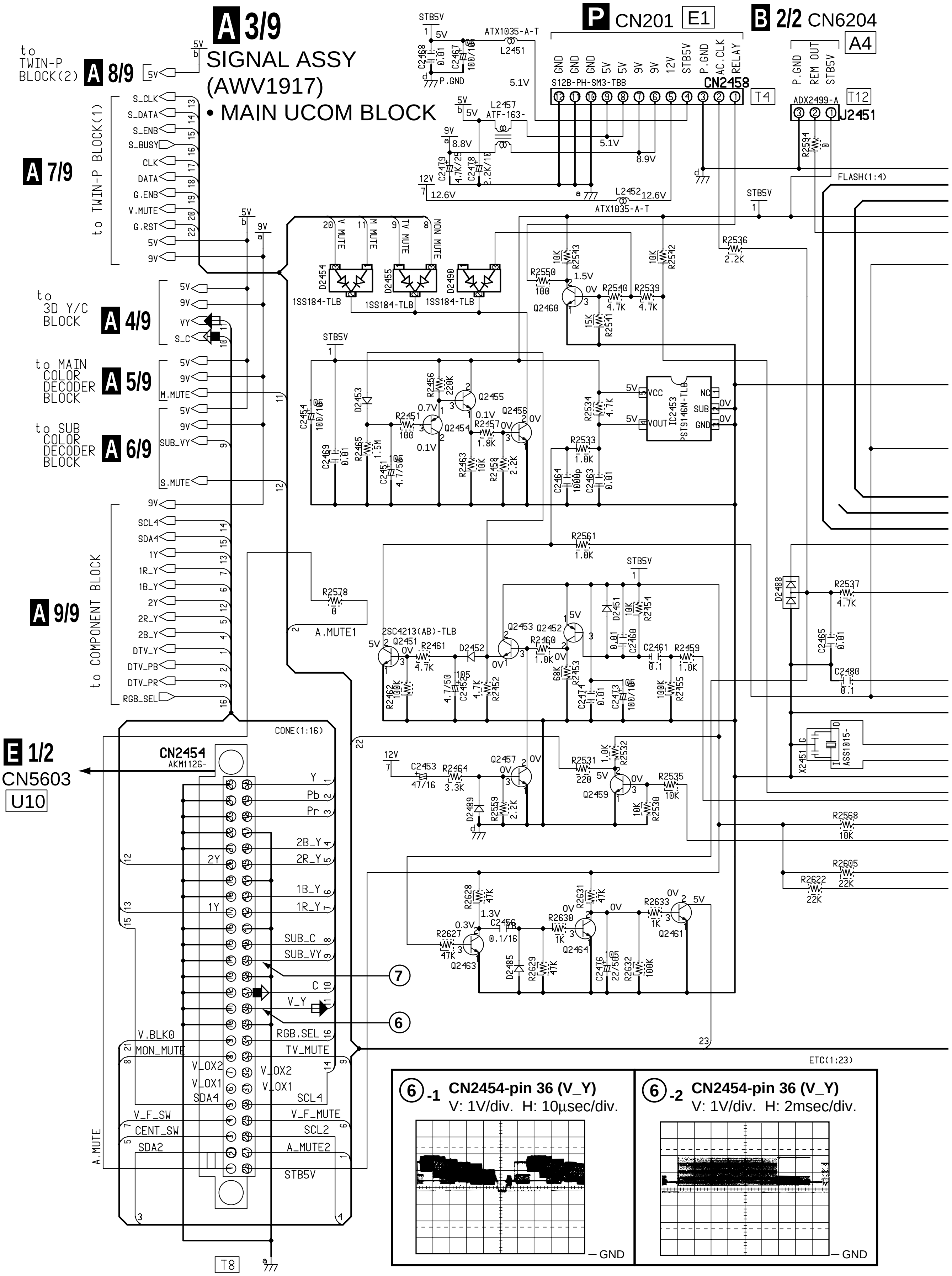
④ **J2703-pin 2, 7**
V: 1V/div. H: 200µsec/div.



⑤ **J2703-pin 4**
V: 1V/div. H: 10µsec/div.

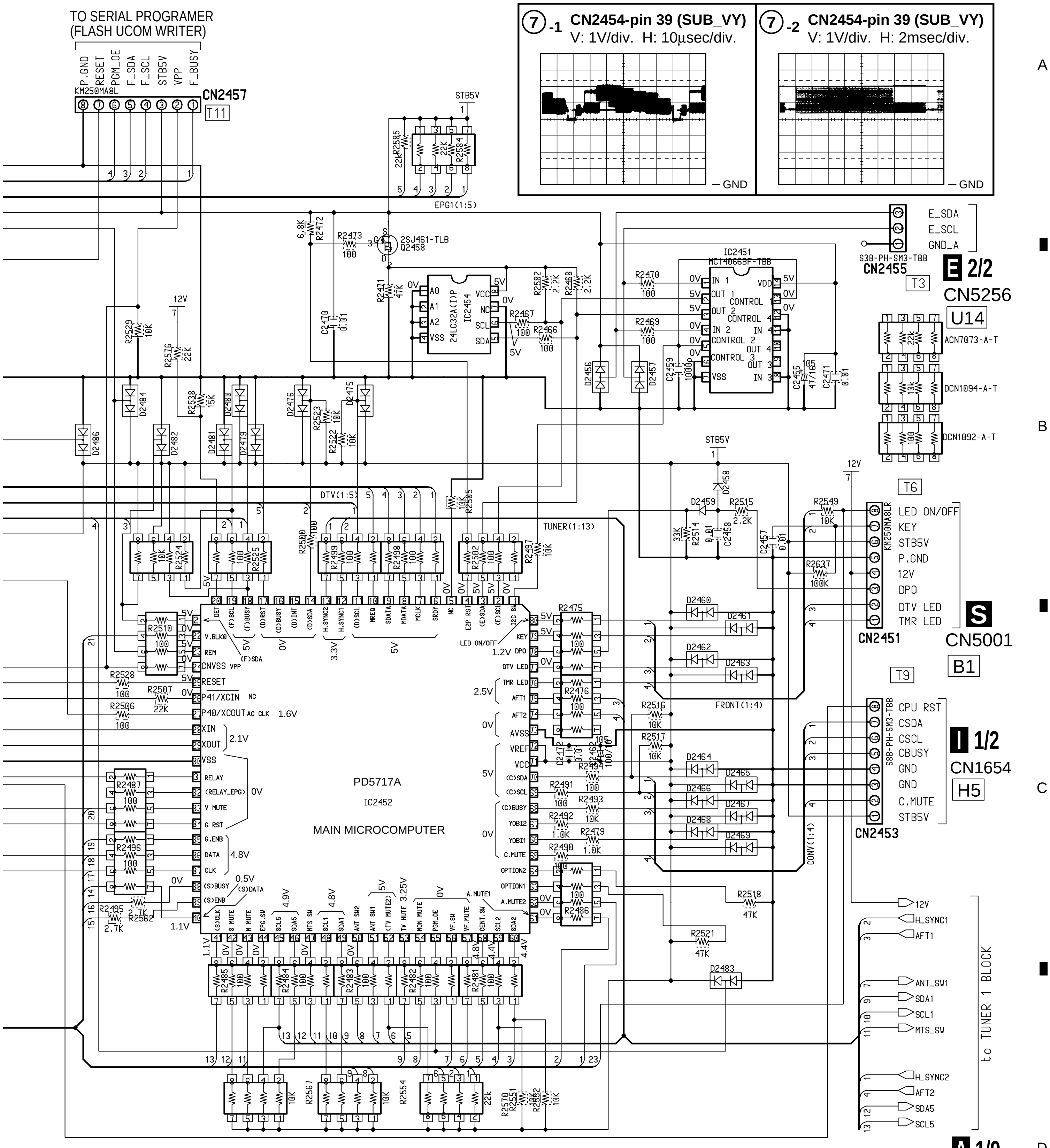


3.5 SIGNAL ASSY (3/9)


A 3/9
SIGNAL ASSY
(AWV1917)
• MAIN UCOM BLOCK
P CN201 E1
B 2/2 CN6204
A4
to TWIN-P BLOCK(2)
A 8/9
A 7/9
to TWIN-P BLOCK(1)
S_CLK
S_DATA
S_ENB
S_BUSY
CLK
DATA
G.ENB
V.MUTE
G.RST
5V
9V
to 3D Y/C BLOCK
A 4/9
VY
S_C
to MAIN COLOR DECODER BLOCK
A 5/9
M.MUTE
to SUB COLOR DECODER BLOCK
A 6/9
SUB_VY
S.MUTE
A 9/9
to COMPONENT BLOCK
SCL4
SDA4
1Y
1R_Y
1B_Y
2Y
2R_Y
2B_Y
DTV_Y
DTV_PB
DTV_PR
RGB_SEL
E 1/2
CN5603
U10
CN2454
AKM1126-
CONE(1:16)
Y
Pb
Pr
2B_Y
2R_Y
1B_Y
1R_Y
SUB_C
SUB_VY
C
V_Y
RGB.SEL
TV_MUTE
V.BLK0
MON_MUTE
V_OX2
V_OX1
SDA4
SCL4
V_F_SW
V_F_MUTE
CENT_SW
SCL2
SDA2
A_MUTE2
STB5V
A.MUTE
T8
ATX1035-A-T
L2451
P.GND
C2468 0.01
C2467 100/16
L2457 ATF-163-
C2479 4.7K/25
C2478 2.2K/16
L2452 ATX1035-A-T
GND GND GND 5V 5V 9V 9V 12V STB5V P.GND AC.CLK RELAY
S12B-PH-SM3-TBB
CN2458
T4
P.GND REM OUT STB5V
ADX2499-A
T12
J2451
R2594 0
FLASH(1:4)
V MUTE
M MUTE
TV MUTE
MON MUTE
D2454
D2455
D2490
1SS184-TLB
R2536 2.2K
R2543 10K
R2550 100
R2540 4.7K
R2539 4.7K
R2541 15K
R2542 10K
Q2460
IC2453
PST9146N-TLB
VCC
VOUT
NC
SUB
GND
R2534 4.7K
R2533 1.0K
C2464 1000p
C2463 0.01
R2456 220K
Q2455
Q2456
Q2454
R2451 100
R2457 1.8K
C2454 100/16
D2453
C2469 0.01
R2465 1.5M
C2451 4.7/50
R2463 10K
R2458 2.2K
R2561 1.0K
R2578 0
A.MUTE1
2SC4213(AB)-TLB
Q2451
R2461 4.7K
D2452
Q2453
Q2452
R2460 1.0K
R2453 68K
D2451
R2454 100K
C2460 0.01
C2461 0.1
R2459 1.0K
R2462 100K
C2452 4.7/50
R2452 4.7K
C2474 0.01
C2473 100/16
R2455 100K
D2488
R2537 4.7K
C2465 0.01
C2480 0.1
X2451
ASS1015-
C2453 47/16
R2464 3.3K
Q2457
D2489
R2559 2.2K
R2531 220
R2532 1.0K
Q2459
R2535 10K
R2530 10K
R2568 10K
R2605 22K
R2622 22K
R2628 47K
R2627 47K
C2456 0.1/16
Q2463
D2485
R2629 47K
R2631 47K
R2630 1K
Q2464
C2476 22/50
R2632 100K
R2633 1K
Q2461
ETC(1:23)
7
6

⑥-1 CN2454-pin 36 (V_Y)
V: 1V/div. H: 10µsec/div.
– GND

⑥-2 CN2454-pin 36 (V_Y)
V: 1V/div. H: 2msec/div.
– GND


⑦-1 CN2454-pin 39 (SUB_VY)
V: 1V/div. H: 10µsec/div.
GND
⑦-2 CN2454-pin 39 (SUB_VY)
V: 1V/div. H: 2msec/div.
GND
TO SERIAL PROGRAMER
(FLASH UCOM WRITER)
P.GND
RESET
PGM_OE
F_SDA
F_SCL
STB5V
VPP
F_BUSY
KM250MA8L
CN2457
T11
STB5V
R2585 22k
R2584 22k
EPG1(1:5)
R2472 6.8K
R2473 100
2SJ461-TLB
Q2458
IC2454
24LC32A(I)P
A0
A1
A2
VSS
VCC
NC
SCL
SDA
R2471 47K
C2470 0.01
R2582 2.2K
R2468 2.2K
R2467 100
R2466 100
IC2451
MC14066BF-TBB
IN 1
OUT 1
OUT 2
IN 2
CONTROL 2
CONTROL 3
VSS
VDD
CONTROL 1
CONTROL 4
IN 4
OUT 4
OUT 3
IN 3
R2470 100
R2469 100
D2456
D2457
C2459 1000p
C2455 47/16
C2471 0.01
E_SDA
E_SCL
GND_A
S3B-PH-SM3-TBB
CN2455
E 2/2
CN5256
T3
U14
ACN7073-A-T
DCN1094-A-T
DCN1092-A-T
R2529 10K
R2576 22K
R2538 15K
D2484
D2480
D2476
D2475
D2486
D2482
D2481
D2479
R2523 10K
R2522 10K
DTV(1:5)
R2565 10K
TUNER(1:13)
R2524 10K
R2525 100
R2500 100
R2499 100
R2498 100
R2502 100
R2497 10K
STB5V
D2458
D2459
R2515 2.2K
R2514 33K
C2458 0.01
C2457 0.01
R2549 10K
R2637 100K
12V
T6
LED ON/OFF
KEY
STB5V
P.GND
12V
DPO
DTV LED
TMR LED
KM250MA8LR
CN2451
S
CN5001
B1
T9
R2510 100
R2528 100
R2507 22K
R2506 100
R2475 100
R2476 100
D2460
D2461
D2462
D2463
FRONT(1:4)
R2516 10K
R2517 10K
D2464
D2465
D2466
D2467
D2468
D2469
CPU RST
CSDA
CSCL
CBUSY
GND
GND
C.MUTE
STB5V
S8B-PH-SM3-TBB
CN2453
I 1/2
CN1654
H5
CONV(1:4)
PD5717A
IC2452
MAIN MICROCOMPUTER
V.BLKG
REM
CNVSS
RESET
P41/XCIN
P40/XCOUT
XIN
XOUT
VSS
RELAY
(RELAY_EPG)
V MUTE
G RST
G.ENB
DATA
CLK
(S)BUSY
(S)ENB
(S)DATA
DET
(F)SCL
(F)BUSY
(D)RST
(D)BUSY
(D)INT
(D)SDA
H.SYNC2
H.SYNC1
(D)SCL
MREQ
SDATA
MDATA
MCLK
SRDY
NC
E2P RST
(E)SDA
(E)SCL
I2C SW
KEY
DPO
DTV LED
TMR LED
AFT1
AFT2
AVSS
VREF
VCC
(C)SDA
(C)SCL
(C)BUSY
YOBI2
YOBI1
C.MUTE
OPTION2
OPTION1
A.MUTE2
A.MUTE1
(S)CLK
S MUTE
M MUTE
EPG.SW
SCL5
SDA5
MTS SW
SCL1
SDA1
ANT SW1
ANT SW2
(TV MUTE2)
TV MUTE
MON MUTE
PGM_OE
VF.SW
VF.MUTE
CENT.SW
SCL2
SDA2
LED ON/OFF
(F)SDA
VPP
AC CLK
1.6V
2.1V
4.8V
0.5V
3.3V
1.2V
2.5V
4.9V
3.25V
4.4V
1.1V
R2487 100
R2496 100
R2495 2.7K
R2562 2.7K
C2472
R2462 100/0
R2494 100
R2491 100
R2493 10K
R2492 1.0K
R2479 1.0K
R2490 100
R2486 100
R2518 47K
R2521 47K
D2483
R2485 100
R2484 100
R2483 100
R2482 100
R2481 100
R2567 10K
R2554 10K
R2570 22k
R2551 10K
R2552 10K
12V
H_SYNC1
AFT1
ANT_SW1
SDA1
SCL1
MTS_SW
H_SYNC2
AFT2
SDA5
SCL5
to TUNER 1 BLOCK
A 1/9
A
B
C
D

Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k kΩ
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless otherwise noted p pF
Indication without voltage is 50V
except electrolytic capacitor.

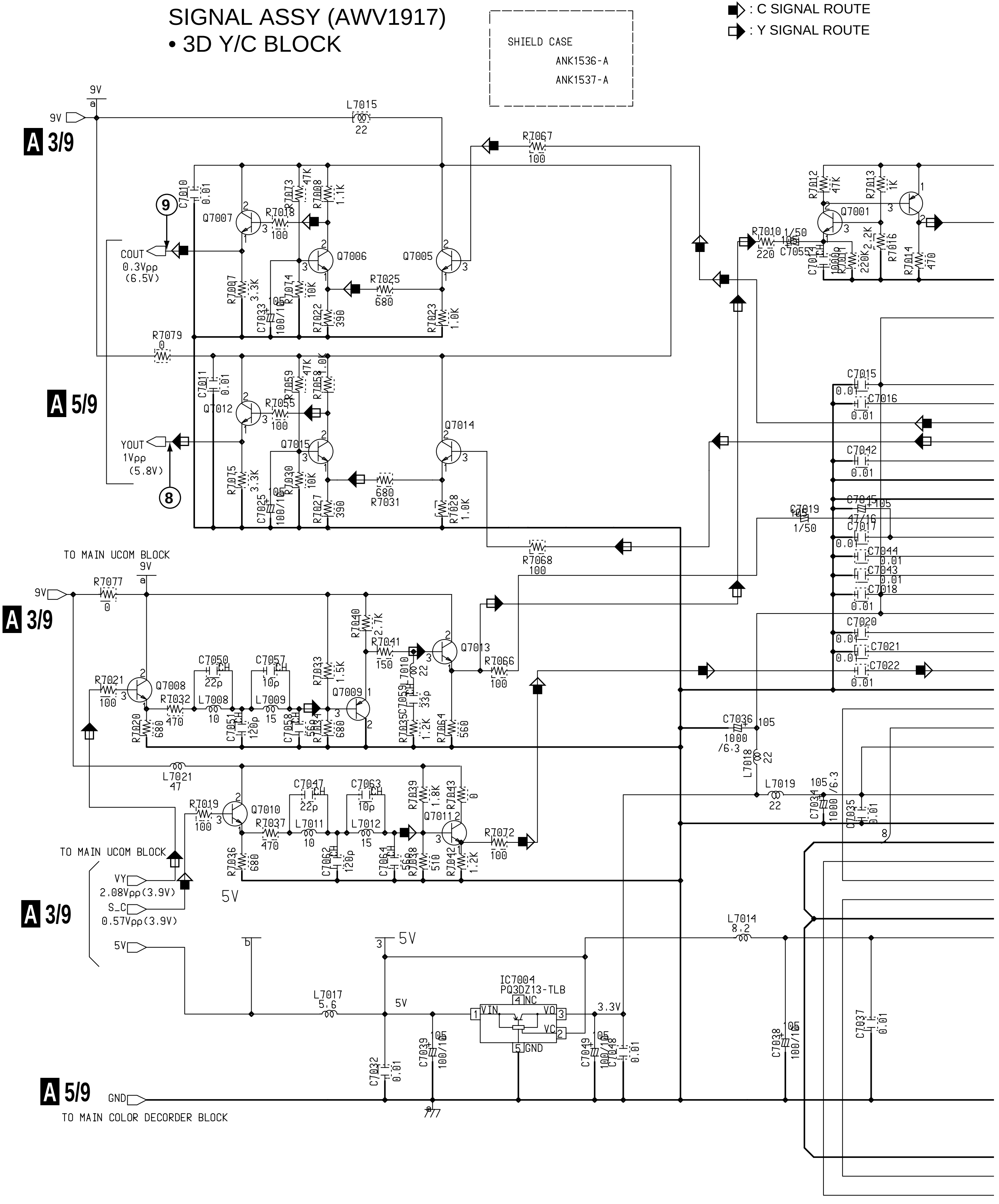
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
1SS352-TRB
1SS226-TRB

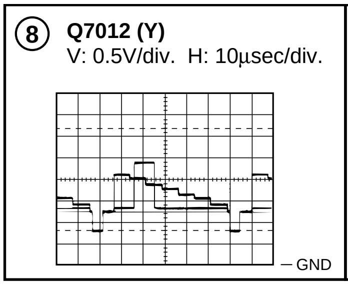
R2690 ELITE
minor

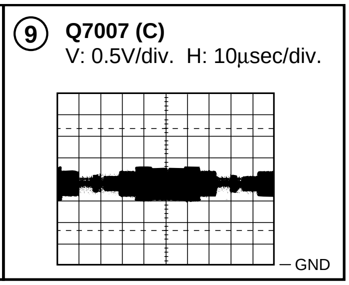
3.6 SIGNAL ASSY (4/9)

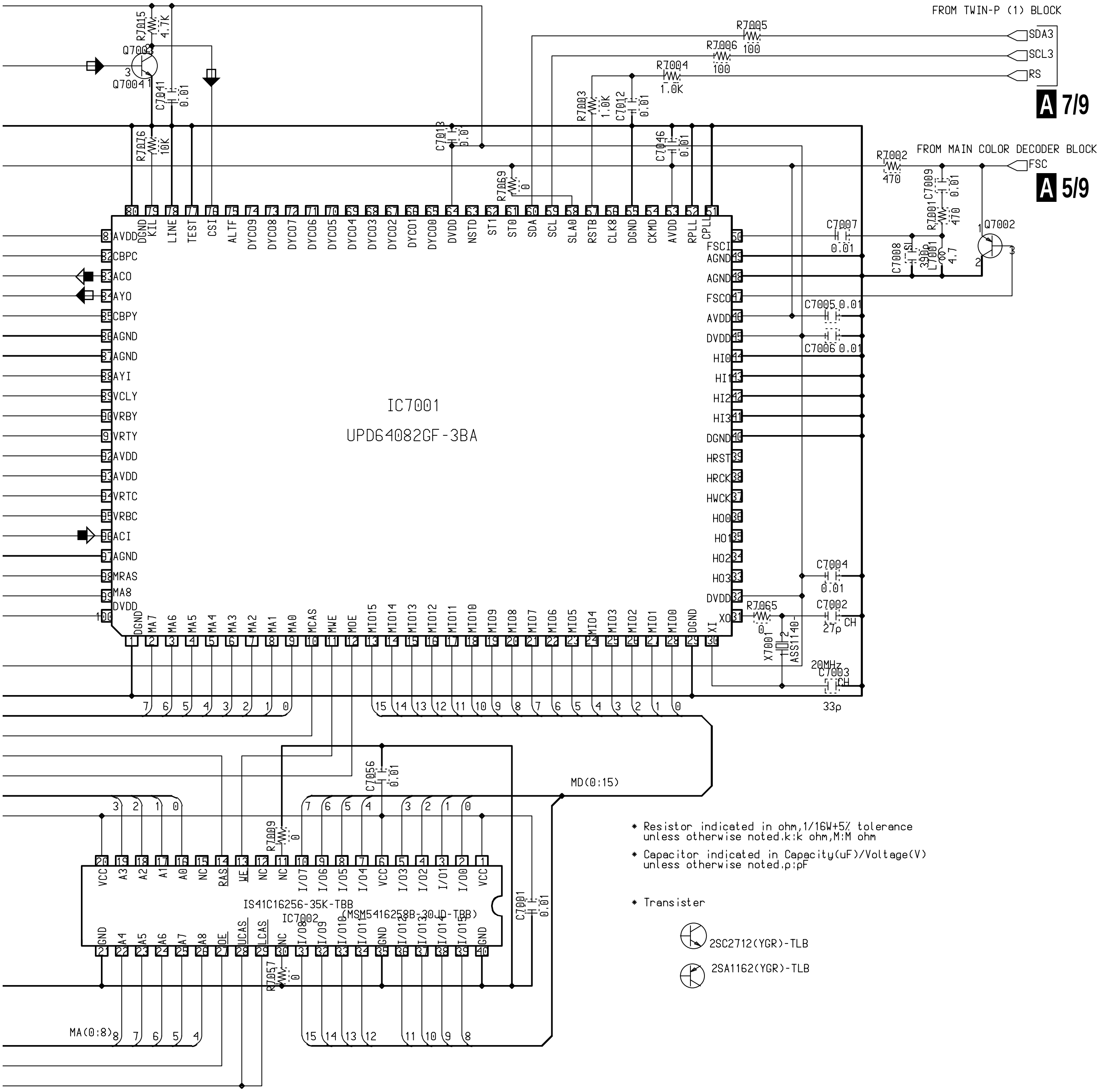
A 4/9

SIGNAL ASSY (AWV1917)
• 3D Y/C BLOCK


: C SIGNAL ROUTE
: Y SIGNAL ROUTE
SHIELD CASE
ANK1536-A
ANK1537-A
A 3/9
9V
L7015 22
R7067 100
C7010 0.01
Q7007
R7018 100
R7073 47K
R7008 1.1K
Q7006
Q7005
COUT 0.3Vpp (6.5V)
R7007 3.3K
C7033 100/16
R7074 10K
R7022 390
R7025 680
R7023 1.0K
R7079 0
A 5/9
C7011 0.01
Q7012
R7055 100
R7059 47K
R7058 1.0K
Q7015
Q7014
YOUT 1Vpp (5.8V)
R7075 3.3K
C7025 100/16
R7030 10K
R7027 390
R7031 680
R7028 1.0K
R7068 100
TO MAIN UCOM BLOCK
R7077 0
R7021 100
Q7008
R7032 470
C7050 22p CH
L7008 10
C7051 120p
C7057 10p CH
L7009 15
C7058
R7033 1.5K
R7034 680
Q7009
R7040 2.7K
R7041 150
C7059 33p
L7010 22
R7035 1.2K
R7064 560
Q7013
R7066 100
R7020 680
L7021 47
R7019 100
Q7010
C7047 22p CH
C7063 10p CH
R7037 470
L7011 10
L7012 15
C7052 120p
C7064 56p
R7036 680
R7038 510
R7039 1.8K
R7043 0
Q7011
R7042 1.2K
R7072 100
VY 2.08Vpp(3.9V)
S_C 0.57Vpp(3.9V)
5V
L7017 5.6
C7032 0.01
C7039 100/16
IC7004 PQ3DZ13-TLB
VIN VO VC NC GND
3.3V
C7049 100/16
C7048 0.01
GND
TO MAIN COLOR DECORDER BLOCK
R7012 47K
R7013 1K
Q7001
R7010 220
C7055 1/50
C7012 1000p
R7011 220K
R7016 2.2K
R7014 470
C7015 0.01
C7016 0.01
C7042 0.01
C7019 1/50
C7045 47/16
C7017 0.01
C7044 0.01
C7043 0.01
C7018 0.01
C7020 0.01
C7021 0.01
C7022 0.01
C7036 1000/6.3
L7018 22
L7019 22
C7034 1000/6.3
C7035 0.01
L7014 8.2
C7038 100/16
C7037 0.01


⑧ Q7012 (Y)
V: 0.5V/div. H: 10µsec/div.


⑨ Q7007 (C)
V: 0.5V/div. H: 10µsec/div.

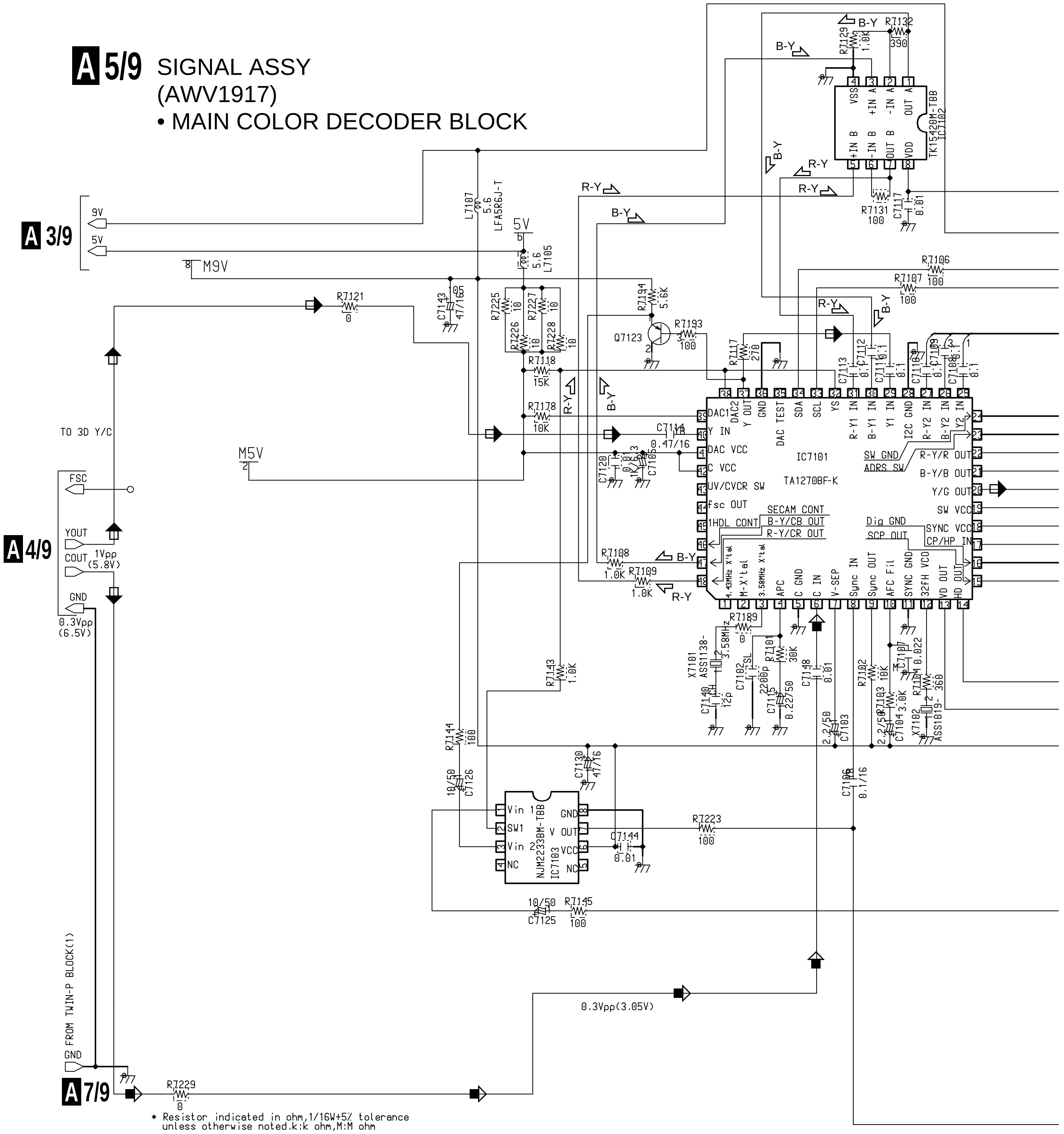

FROM TWIN-P (1) BLOCK
R7005 100
R7006 100
R7004 1.0K
SDA3
SCL3
RS
A 7/9
R7015 4.7K
Q7003
Q7004
C7041 0.01
R7003 1.0K
C7012 0.01
R7016 10K
C7013 0.01
C7046 0.01
R7069 0
FROM MAIN COLOR DECODER BLOCK
R7002 470
FSC
A 5/9
C7009 0.01
R7001 470
L7001 4.7
C7008 390p
C7007 0.01
Q7002
C7005 0.01
C7006 0.01
C7004 0.01
C7002 27p CH
R7065 0
X7001 ASS1140
20MHz
C7003 CH 33p
IC7001
UPD64082GF-3BA
AVDD CBPC ACO AYO CBPY AGND AGND AYI VCLY VRBY VRTY AVDD AVDD VRTC VRBC ACI AGND MRAS MA8 DVDD
DGND KIL LINE TEST CSI ALTF DYCO9 DYCO8 DYCO7 DYCO6 DYCO5 DYCO4 DYCO3 DYCO2 DYCO1 DYCO0 DVDD NSTD ST1 ST0 SDA SCL SLA0 RSTB CLK8 DGND CKMD AVDD RPLL CPLL
FSCI AGND AGND FSCO AVDD DVDD HI0 HI1 HI2 HI3 DGND HRST HRCK HWCK HO0 HO1 HO2 HO3 DVDD XO
DGND MA7 MA6 MA5 MA4 MA3 MA2 MA1 MA0 MCAS MWE MOE MIO15 MIO14 MIO13 MIO12 MIO11 MIO10 MIO9 MIO8 MIO7 MIO6 MIO5 MIO4 MIO3 MIO2 MIO1 MIO0 DGND XI
MD(0:15)
C7056 0.01
R7009 0
IS41C16256-35K-TBB
IC7002 (MSM5416258B-30JD-TBB)
VCC A3 A2 A1 A0 NC RAS WE NC NC I/O7 I/O6 I/O5 I/O4 VCC I/O3 I/O2 I/O1 I/O0 VCC
GND A4 A5 A6 A7 A8 OE UCAS LCAS NC I/O8 I/O9 I/O10 GND I/O11 I/O12 I/O13 I/O14 I/O15 GND
C7001 0.01
R7057 0
MA(0:8)

- Resistor indicated in ohm,1/16W+5% tolerance unless otherwise noted.k:k ohm,M:M ohm
- Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted.p:pF
- Transister

2SC2712(YGR)-TLB
2SA1162(YGR)-TLB

3.7 SIGNAL ASSY (5/9)

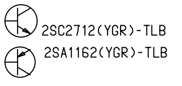
A 5/9 SIGNAL ASSY
(AWV1917)
• MAIN COLOR DECODER BLOCK


A 3/9
9V
5V
M9V
A 4/9
FSC
YOUT
COUT
1Vpp (5.8V)
GND
0.3Vpp (6.5V)
TO 3D Y/C
M5V
A 7/9
FROM TWIN-P BLOCK(1)
GND
R7229 0
0.3Vpp(3.05V)
L7107 5.6 LFA5R6J-T
L7105 5.6
5V
C7143 47/16
R7121 0
R7225 10
R7226 10
R7227 10
R7228 10
R7118 15K
R7178 10K
R7194 5.6K
Q7123
R7193 100
R7117 270
C7119 0.47/16
C7120 0.01
C7105 10
R7108 1.0K
R7109 1.0K
R-Y
B-Y
IC7101 TA1270BF-K
DAC1
Y IN
DAC VCC
C VCC
UV/CVCR SW
fsc OUT
1HDL CONT
SECAM CONT
B-Y/CB OUT
R-Y/CR OUT
DAC2
Y OUT
GND
DAC TEST
SDA
SCL
YS
R-Y1 IN
B-Y1 IN
Y1 IN
I2C GND
R-Y2 IN
B-Y2 IN
Y2 IN
SW GND
ADRS SW
R-Y/R OUT
B-Y/B OUT
Y/G OUT
SW VCC
SYNC VCC
CP/HP IN
Dig GND
SCP OUT
4.43MHz X'tal
M-X'tal
3.58MHz X'tal
APC
C GND
C IN
V-SEP
Sync IN
Sync OUT
AFC Fil
SYNC GND
32FH VCO
VD OUT
HD OUT
C7113 0.1
C7112 0.1
C7111 0.1
C7110 0.1
C7109 0.1
C7108 0.1
R7106 100
R7107 100
IC7102 TK15420M-TBB
VSS
+IN A
-IN A
OUT A
+IN B
-IN B
OUT B
VDD
R7129 1.0K
R7132 390
R7131 100
C7117 0.01
R7189 0
X7101 ASS1138- 3.58MHz
C7140 1.5µH 12p
C7102 SL 2200p
R7101 30K
C7115 0.22/50
C7148 0.01
C7103 2.2/50
R7102 10K
R7103 3.0K
C7104 2.2/50
C7101 0.022
R7104 360
X7102 ASS1019-
R7143 1.0K
R7144 100
C7126 10/50
C7130 47/16
C7106 0.1/16
IC7103 NJM2233BM-TBB
Vin 1
SW1
Vin 2
NC
GND
V OUT
VCC
C7144 0.01
R7223 100
C7125 10/50
R7145 100

* Resistor indicated in ohm,1/16W+5% tolerance
  unless otherwise noted.k:k ohm,M:M ohm

* Capacitor indicated in Capacity(uF)/Voltage(V)
  unless otherwise noted.p:pF

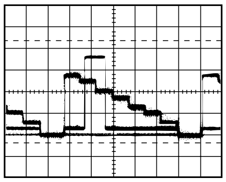
* Transister


2SC2712(YGR)-TLB
2SA1162(YGR)-TLB

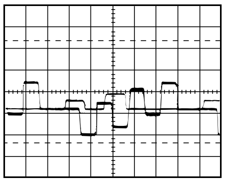
1/16W

▶ : C SIGNAL ROUTE
▷ : Y SIGNAL ROUTE
R-Y △ : R-Y SIGNAL ROUTE
B-Y △ : B-Y SIGNAL ROUTE

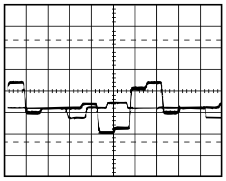
⑩ **Q7115-Emitter (MY) (AC)**
V: 0.2V/div. H: 10µsec/div.

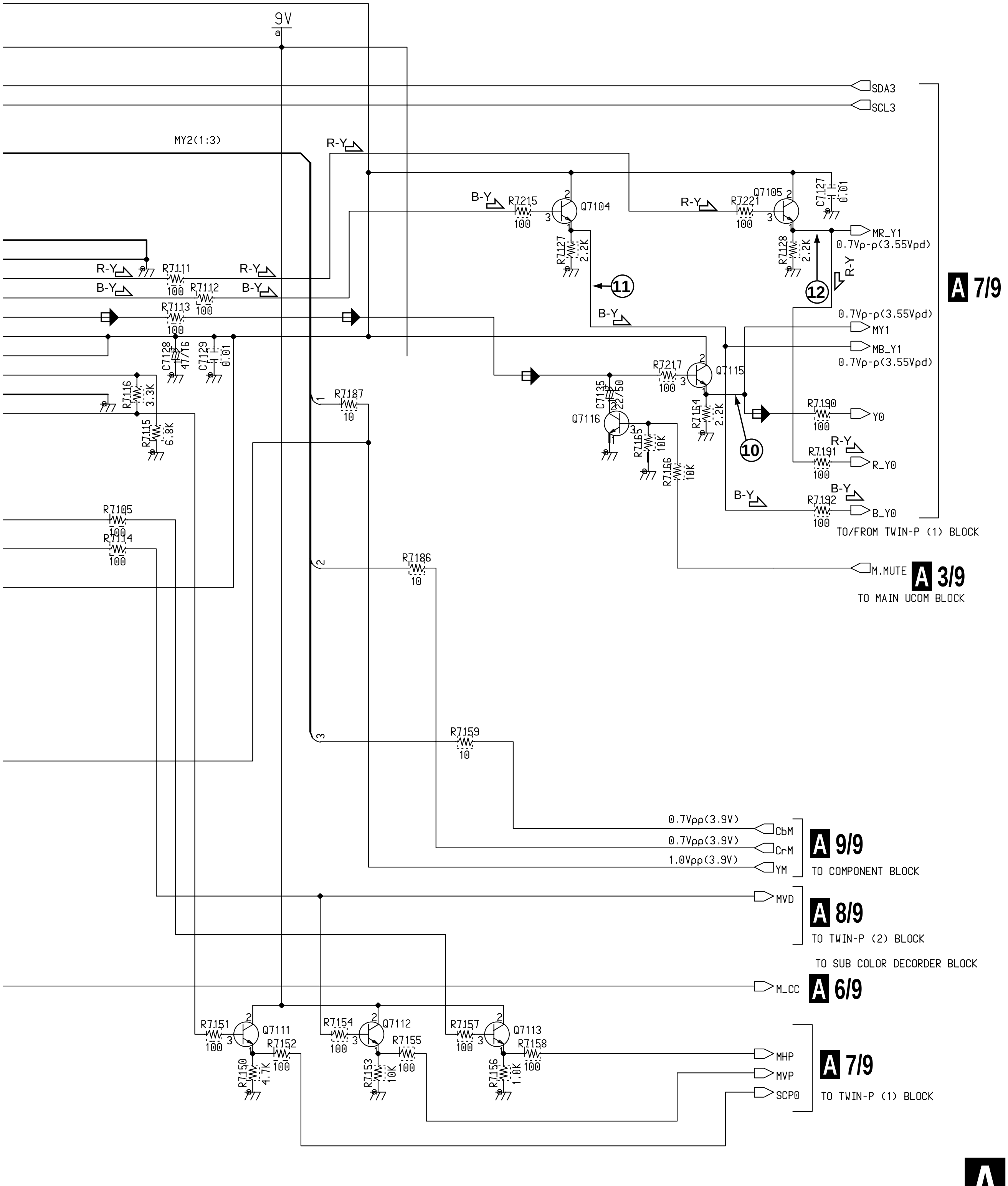


⑪ **Q7104-Emitter (MB-Y) (AC)**
V: 0.2V/div. H: 10µsec/div.



⑫ **Q7105-Emitter (MR-Y) (AC)**
V: 0.2V/div. H: 10µsec/div.



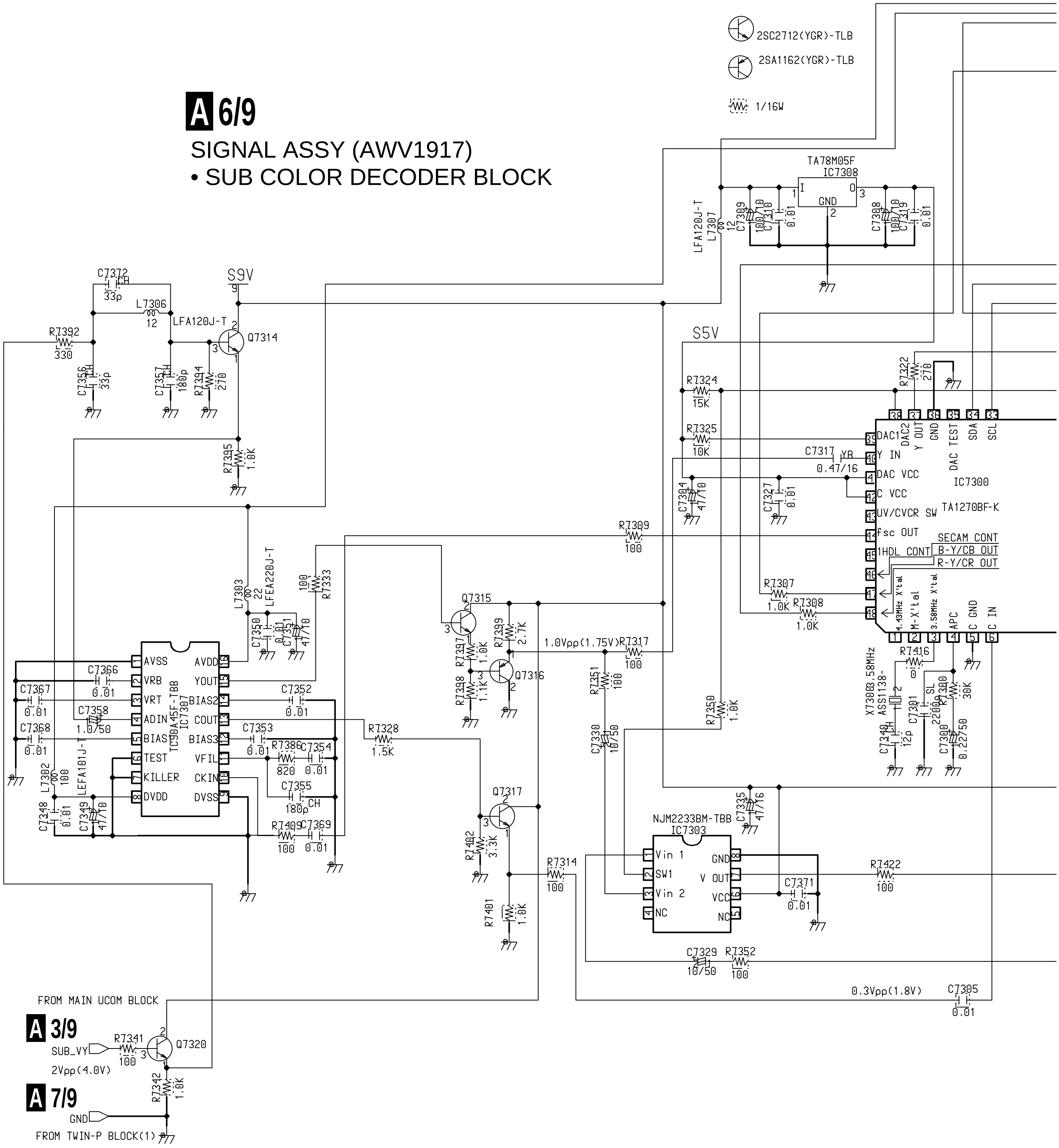


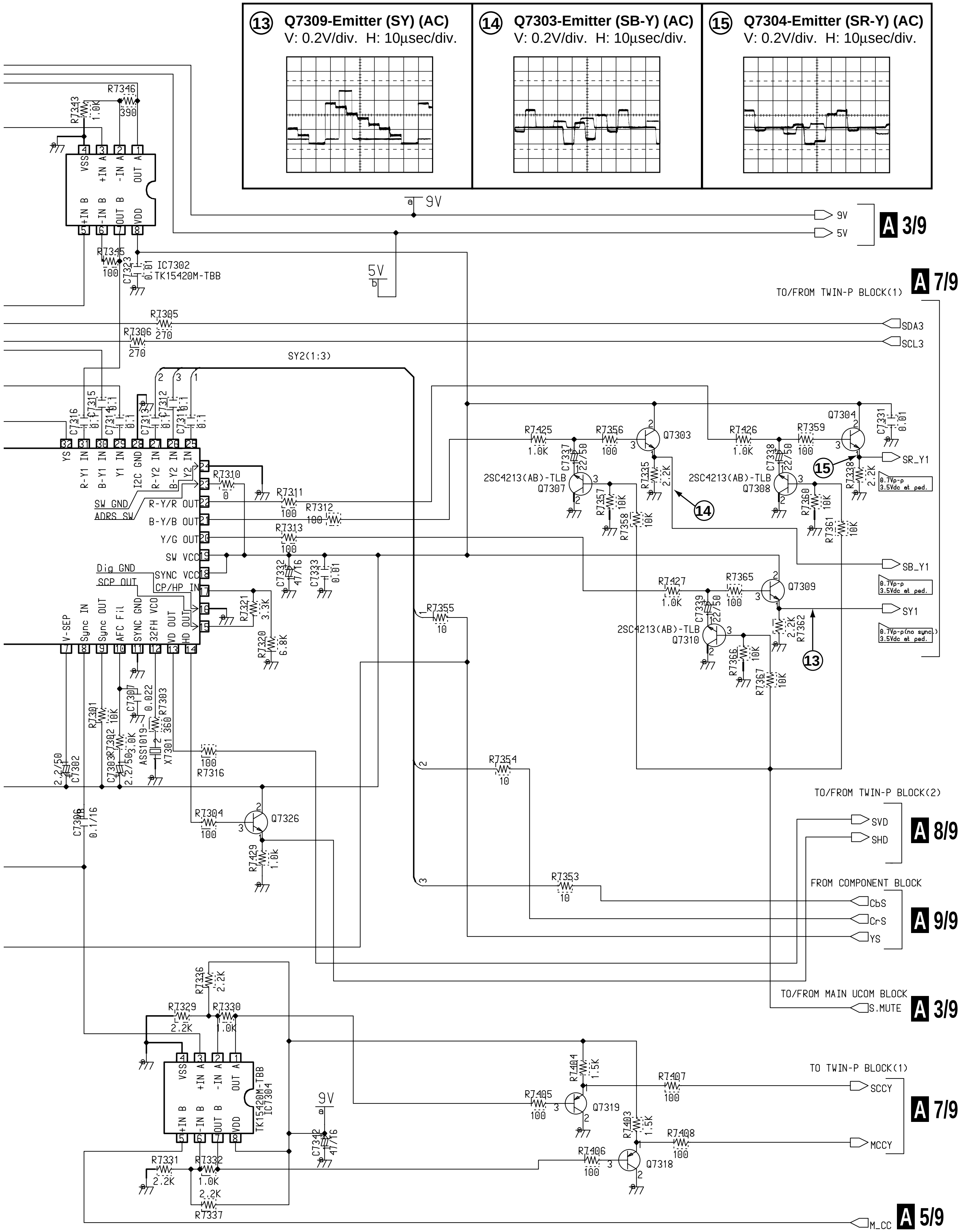
3.8 SIGNAL ASSY (6/9)

A 6/9

SIGNAL ASSY (AWV1917)

• SUB COLOR DECODER BLOCK


2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
1/16W
TA78M05F
IC7308
I
O
GND
LFA120J-T
L7307
C7309 100/10
C7310 0.01
C7308 100/10
C7319 0.01
C7372 33p CH
S9V
L7306 12
LFA120J-T
R7392 330
Q7314
C7356 33p CH
C7357 180p CH
R7394 270
R7395 1.0K
S5V
R7324 15K
R7325 10K
R7322 270
C7317 YB 0.47/16
C7304 47/10
C7327 0.01
IC7300
TA1270BF-K
DAC1
DAC2
Y OUT
GND
DAC TEST
SDA
SCL
Y IN
DAC VCC
C VCC
UV/CVCR SW
fsc OUT
1HDL CONT
SECAM CONT
B-Y/CB OUT
R-Y/CR OUT
4.43MHz X'tal
M-X'tal
3.58MHz X'tal
APC
C GND
C IN
R7309 100
R7307 1.0K
R7308 1.0K
R7416 0
X7300 3.58MHz ASS1138-
C7340 12p CH
C7301 2200p SL
R7300 30K
C7300 0.22/50
L7303 22 LFEA220J-T
R7333 100
C7350 0.01
C7351 47/10
Q7315
Q7316
R7399 2.7K
R7397 1.0K
R7398 1.1K
1.0Vpp(1.75V)
R7317 100
R7351 100
C7330 10/50
R7350 1.0K
C7335 47/16
IC7307
TC90A45F-TBB
AVSS
VRB
VRT
ADIN
BIAS1
TEST
KILLER
DVDD
AVDD
YOUT
BIAS2
COUT
BIAS3
VFIL
CKIN
DVSS
C7366 0.01
C7367 0.01
C7358 1.0/50
C7368 0.01
C7352 0.01
C7353 0.01
R7386 820
C7354 0.01
C7355 180p CH
R7409 100
C7369 0.01
R7328 1.5K
L7302 100 LEFA101J-T
C7348 0.01
C7349 47/10
Q7317
R7402 3.3K
R7401 1.0K
R7314 100
NJM2233BM-TBB
IC7303
Vin 1
SW1
Vin 2
NC
GND
V OUT
VCC
C7371 0.01
R7422 100
C7329 10/50
R7352 100
0.3Vpp(1.8V)
C7305 0.01
FROM MAIN UCOM BLOCK
A 3/9
SUB_VY
R7341 100
Q7320
2Vpp(4.0V)
R7342 1.0K
A 7/9
GND
FROM TWIN-P BLOCK(1)



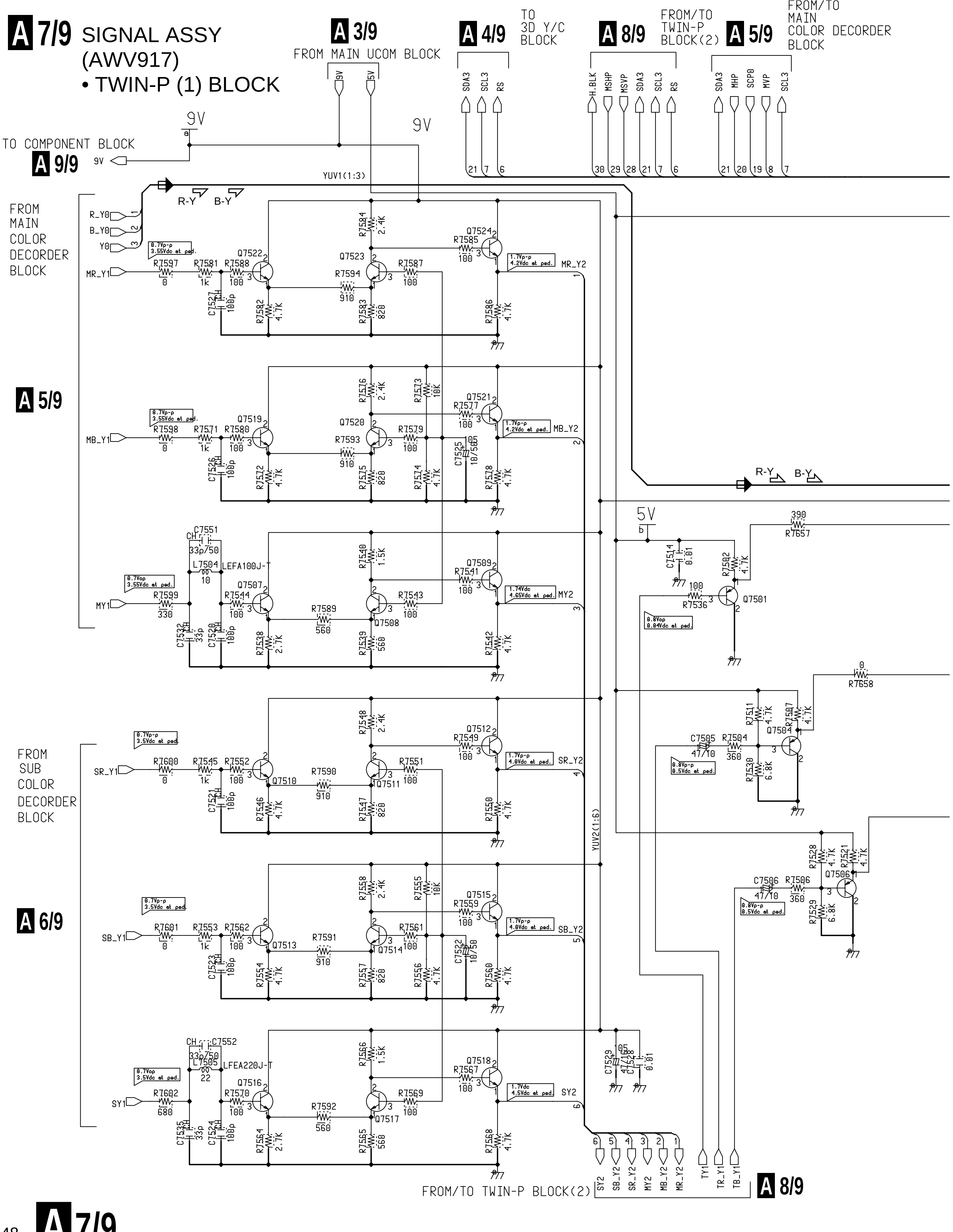
⑬ **Q7309-Emitter (SY) (AC)**
V: 0.2V/div. H: 10µsec/div.

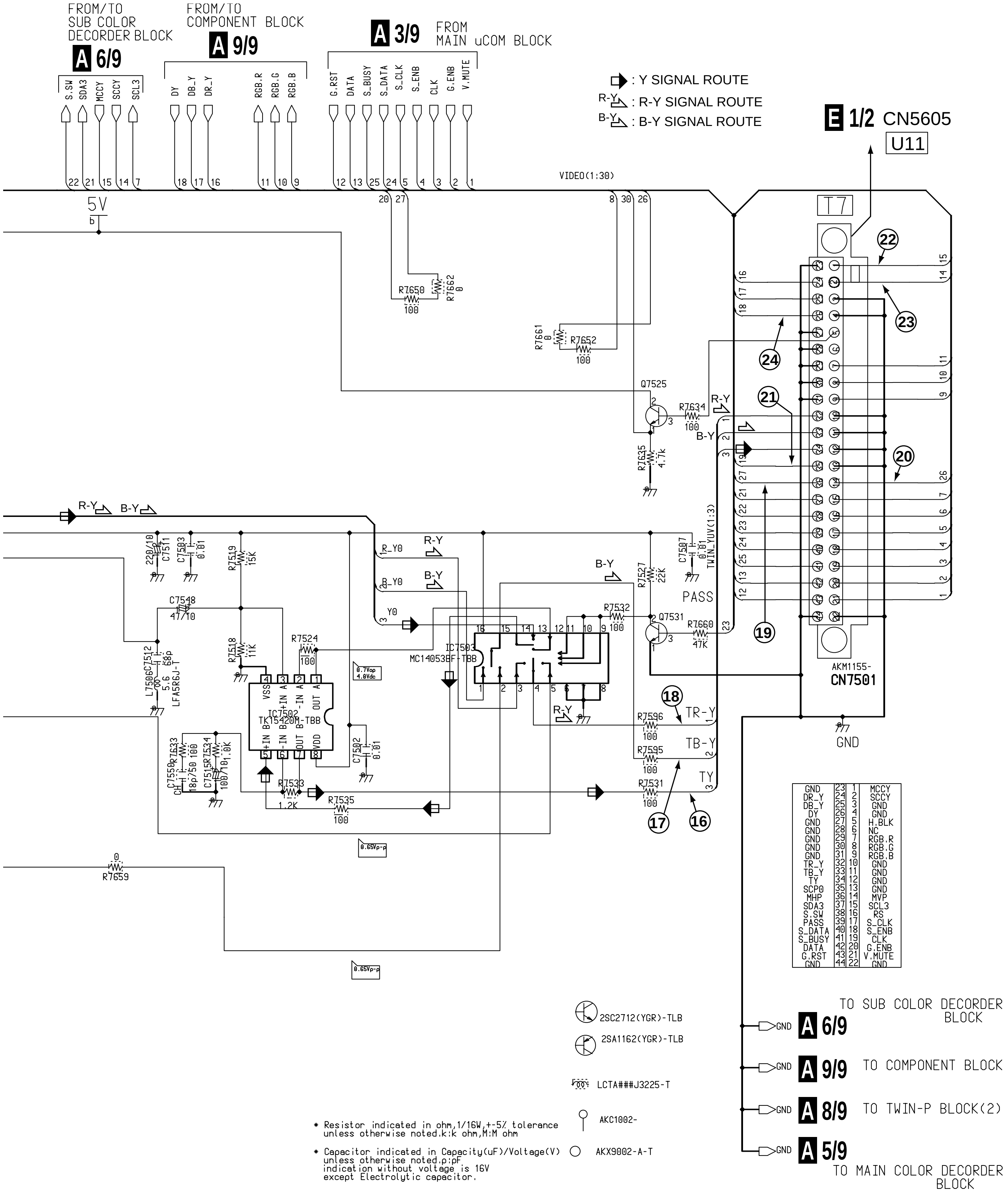
⑭ **Q7303-Emitter (SB-Y) (AC)**
V: 0.2V/div. H: 10µsec/div.

⑮ **Q7304-Emitter (SR-Y) (AC)**
V: 0.2V/div. H: 10µsec/div.

IC7302
TK15420M-TBB
VSS
+IN A
-IN A
OUT A
+IN B
-IN B
OUT B
VDD
R7343 1.0K
R7346 390
R7345 100
C7323 0.01
9V
5V
A 3/9
A 7/9
TO/FROM TWIN-P BLOCK(1)
R7305 270
R7306 270
SDA3
SCL3
SY2(1:3)
C7316 0.1
C7315 0.1
C7314 0.1
C7313 0.1
C7312 0.1
C7311 0.1
YS
R-Y1 IN
B-Y1 IN
Y1 IN
I2C GND
R-Y2 IN
B-Y2 IN
Y2 IN
SW GND
ADRS SW
R-Y/R OUT
B-Y/B OUT
Y/G OUT
SW VCC
Dig GND
SYNC VCC
SCP OUT
CP/HP IN
V-SEP
Sync IN
Sync OUT
AFC Fil
SYNC GND
32FH VCO
VD OUT
HD OUT
R7310 0
R7311 100
R7312 100
R7313 100
C7332 47/16
C7333 0.01
R7321 3.3K
R7320 6.8K
R7355 10
R7354 10
R7353 10
R7301 10K
R7302 3.0K
C7303 2.2/50
C7307 0.022
R7303 360
X7301 ASS1019-
R7316 100
C7302 2.2/50
C7306 0.1/16
R7304 100
Q7326
R7429 1.0k
R7425 1.0K
R7356 100
Q7303
C7337 22/50
2SC4213(AB)-TLB
Q7307
R7335 2.2K
R7357 10K
R7358 10K
R7426 1.0K
R7359 100
Q7304
C7331 0.01
C7338 22/50
2SC4213(AB)-TLB
Q7308
R7336 2.2K
R7360 10K
R7361 10K
SR_Y1
0.7Vp-p 3.5Vdc at ped.
SB_Y1
0.7Vp-p 3.5Vdc at ped.
R7427 1.0K
R7365 100
Q7309
C7339 22/50
2SC4213(AB)-TLB
Q7310
R7362 2.2K
R7366 10K
R7367 10K
SY1
0.7Vp-p(no sync.) 3.5Vdc at ped.
TO/FROM TWIN-P BLOCK(2)
SVD
SHD
A 8/9
FROM COMPONENT BLOCK
CbS
CrS
YS
A 9/9
TO/FROM MAIN UCOM BLOCK
S.MUTE
A 3/9
IC7304
TK15420M-TBB
R7336 2.2K
R7329 2.2K
R7330 1.0K
C7342 47/16
9V
R7331 2.2K
R7332 1.0K
R7337 2.2K
R7404 1.5K
R7405 100
Q7319
R7407 100
TO TWIN-P BLOCK(1)
SCCY
A 7/9
R7403 1.5K
R7406 100
Q7318
R7408 100
MCCY
M_CC
A 5/9

3.9 SIGNAL ASSY (7/9)


A 7/9 SIGNAL ASSY
(AWV917)
• TWIN-P (1) BLOCK
A 3/9 FROM MAIN UCOM BLOCK
9V
5V
A 4/9 TO 3D Y/C BLOCK
SDA3 SCL3 RS
A 8/9 FROM/TO TWIN-P BLOCK(2)
H.BLK MSHP MSVP SDA3 SCL3 RS
A 5/9 FROM/TO MAIN COLOR DECORDER BLOCK
SDA3 MHP SCP0 MVP SCL3
TO COMPONENT BLOCK
A 9/9
9V
YUV1(1:3)
R-Y B-Y
FROM MAIN COLOR DECORDER BLOCK
R_Y0 B_Y0 Y0
A 5/9
MR_Y1 MB_Y1 MY1
FROM SUB COLOR DECORDER BLOCK
A 6/9
SR_Y1 SB_Y1 SY1
Q7522 Q7523 Q7524 MR_Y2
Q7519 Q7520 Q7521 MB_Y2
Q7507 Q7508 Q7509 MY2
Q7510 Q7511 Q7512 SR_Y2
Q7513 Q7514 Q7515 SB_Y2
Q7516 Q7517 Q7518 SY2
L7504 LEFA100J-T 10
L7505 LEFA220J-T 22
C7551 33p/50
C7552 33p/50
0.7Vp-p 3.55Vdc at ped.
1.7Vp-p 4.2Vdc at ped.
0.7Vop 3.55Vdc at ped.
1.74Vdc 4.65Vdc at ped.
0.7Vp-p 3.5Vdc at ped.
1.7Vp-p 4.0Vdc at ped.
0.7Vop 3.5Vdc at ped.
1.7Vdc 4.5Vdc at ped.
YUV2(1:6)
5V
R7657 390
C7514 0.01
R7502 4.7K
R7536 100
Q7501
0.8Vop 0.84Vdc at ped.
R7658 0
R7511 4.7K R7507 4.7K
Q7504
C7505 47/10 R7504 360
R7530 6.8K
0.8Vp-p 0.5Vdc at ped.
R7528 4.7K R7521 4.7K
Q7506
C7506 47/10 R7506 360
R7529 6.8K
0.8Vp-p 0.5Vdc at ped.
C7529 47/16 C7528 0.01
SY2 SB_Y2 SR_Y2 MY2 MB_Y2 MR_Y2 TY1 TR_Y1 TB_Y1
FROM/TO TWIN-P BLOCK(2)
A 8/9


FROM/TO
SUB COLOR
DECORDER BLOCK
A 6/9
FROM/TO
COMPONENT BLOCK
A 9/9
A 3/9
FROM
MAIN uCOM BLOCK
S.SW
SDA3
MCCY
SCCY
SCL3
DY
DB_Y
DR_Y
RGB.R
RGB.G
RGB.B
G.RST
DATA
S.BUSY
S.DATA
S.CLK
S.ENB
CLK
G.ENB
V.MUTE
: Y SIGNAL ROUTE
R-Y : R-Y SIGNAL ROUTE
B-Y : B-Y SIGNAL ROUTE
E 1/2 CN5605
U11
VIDEO(1:30)
5V
T7
R7650
100
R7662
0
R7661
0
R7652
100
Q7525
R7634
100
R-Y
B-Y
R7635
4.7K
R-Y
B-Y
220/10
C7511
C7503
0.01
R7519
15K
R_Y0
B_Y0
Y0
C7548
47/10
R7518
11K
R7524
100
0.7Vop
4.0Vdc
IC7502
TK15420M-TBB
VSS
+IN A
-IN A
OUT A
+IN B
-IN B
OUT B
VDD
IC7503
MC14053BF-TBB
C7512
68p
L7506
5.6
LFA5R6J-T
C7550
CH
18p/50
R7633
100
C7515
100/10
R7534
1.0K
C7502
0.01
R7533
1.2K
R7535
100
0.65Vp-p
R7659
0
0.65Vp-p
C7507
0.01
TWIN_YUV(1:3)
R7527
22K
PASS
R7532
100
Q7531
R7660
47K
TR-Y
TB-Y
TY
R7596
100
R7595
100
R7531
100
AKM1155-
CN7501
GND
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
LCTA###J3225-T
AKC1002-
AKX9002-A-T
TO SUB COLOR DECORDER BLOCK
GND A 6/9
GND A 9/9
TO COMPONENT BLOCK
GND A 8/9
TO TWIN-P BLOCK(2)
GND A 5/9
TO MAIN COLOR DECORDER BLOCK

GND	23	1	MCCY
DR_Y	24	2	SCCY
DB_Y	25	3	GND
DY	26	4	GND
GND	27	5	H.BLK
GND	28	6	NC
GND	29	7	RGB.R
GND	30	8	RGB.G
GND	31	9	RGB.B
TR_Y	32	10	GND
TB_Y	33	11	GND
TY	34	12	GND
SCP0	35	13	GND
MHP	36	14	MVP
SDA3	37	15	SCL3
S.SW	38	16	RS
PASS	39	17	S_CLK
S_DATA	40	18	S_ENB
S_BUSY	41	19	CLK
DATA	42	20	G.ENB
G.RST	43	21	V.MUTE
GND	44	22	GND

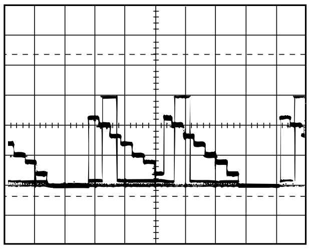
* Resistor indicated in ohm,1/16W,+-5% tolerance
unless otherwise noted.k:k ohm,M:M ohm

* Capacitor indicated in Capacity(uF)/Voltage(V)
unless otherwise noted.p:pF
indication without voltage is 16V
except Electrolytic capacitor.

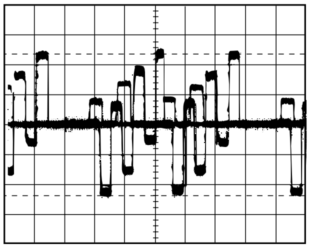
A 7/9 SIGNAL ASSY (7/9)

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

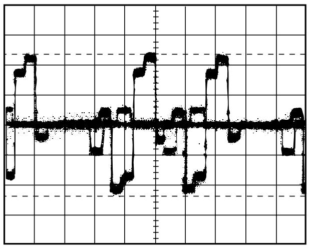
⑯ **Foot of R7531 (TY) (AC)**
V: 0.5V/div. H: 10µsec/div.



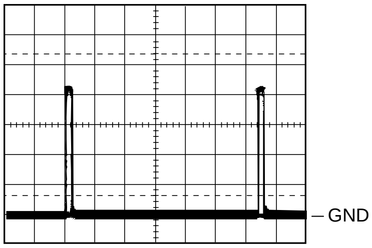
⑰ **Foot of R7595 (TB-Y) (AC)**
V: 0.1V/div. H: 10µsec/div.



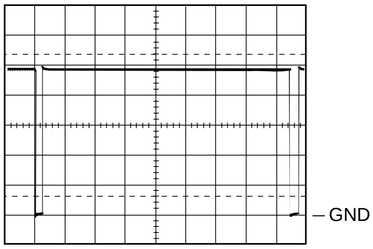
⑱ **Foot of R7596 (TR-Y) (AC)**
V: 0.1V/div. H: 10µsec/div.



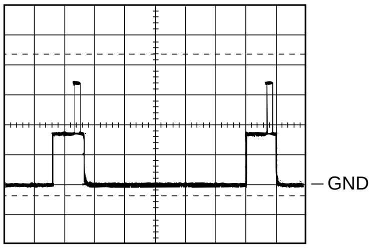
⑲ **CN7501-pin 36 (MHP)**
V: 1V/div. H: 10µsec/div.



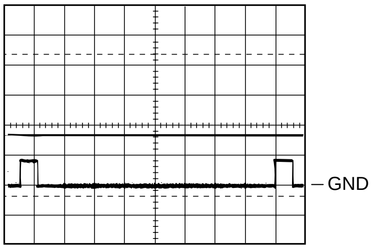
⑳ **CN7501-pin 14 (MVP)**
V: 1V/div. H: 2msec/div.



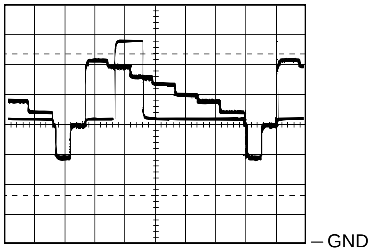
㉑-1 **CN7501-pin 35 (SCP0)**
V: 2V/div. H: 10µsec/div.



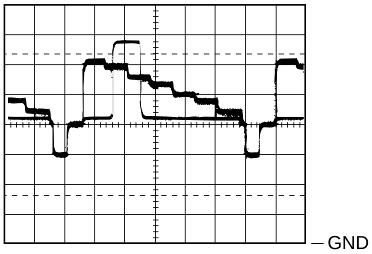
㉑-2 **CN7501-pin 35 (SCP0)**
V: 2V/div. H: 2msec/div.



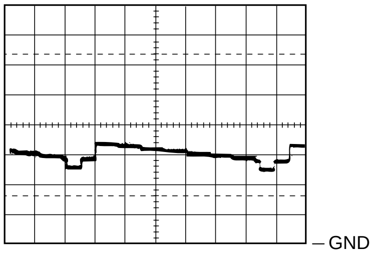
㉒ **CN7501-pin 1 (MCCY)**
V: 0.5V/div. H: 10µsec/div.



㉓ **CN7501-pin 2 (SCCY)**
V: 0.5V/div. H: 10µsec/div.



㉔ **CN7501-pin 26 (DYOUT)**
V: 1V/div. H: 10µsec/div.



A 7/9 SIGNAL ASSY (7/9)

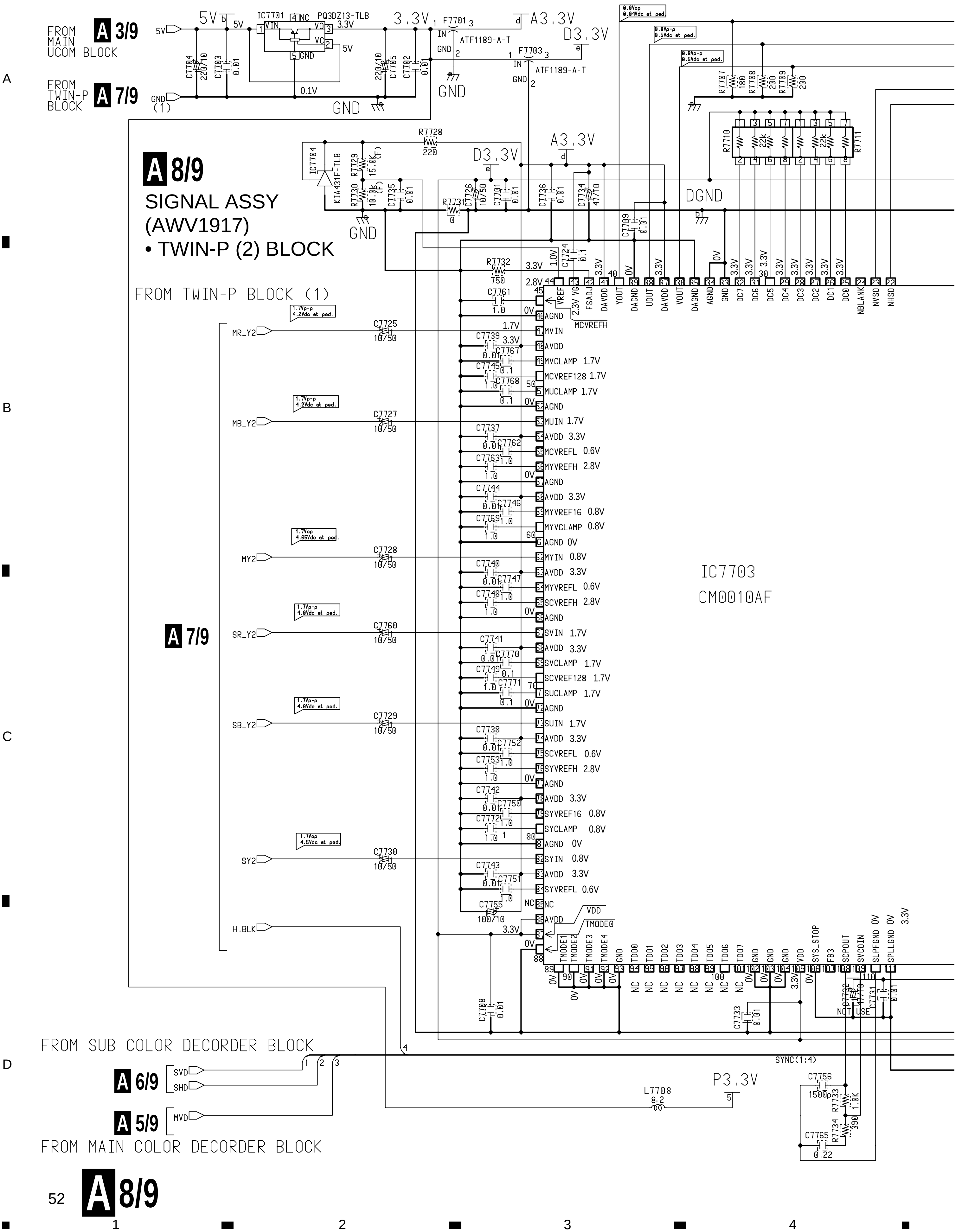
IC7502 (TK15420M)

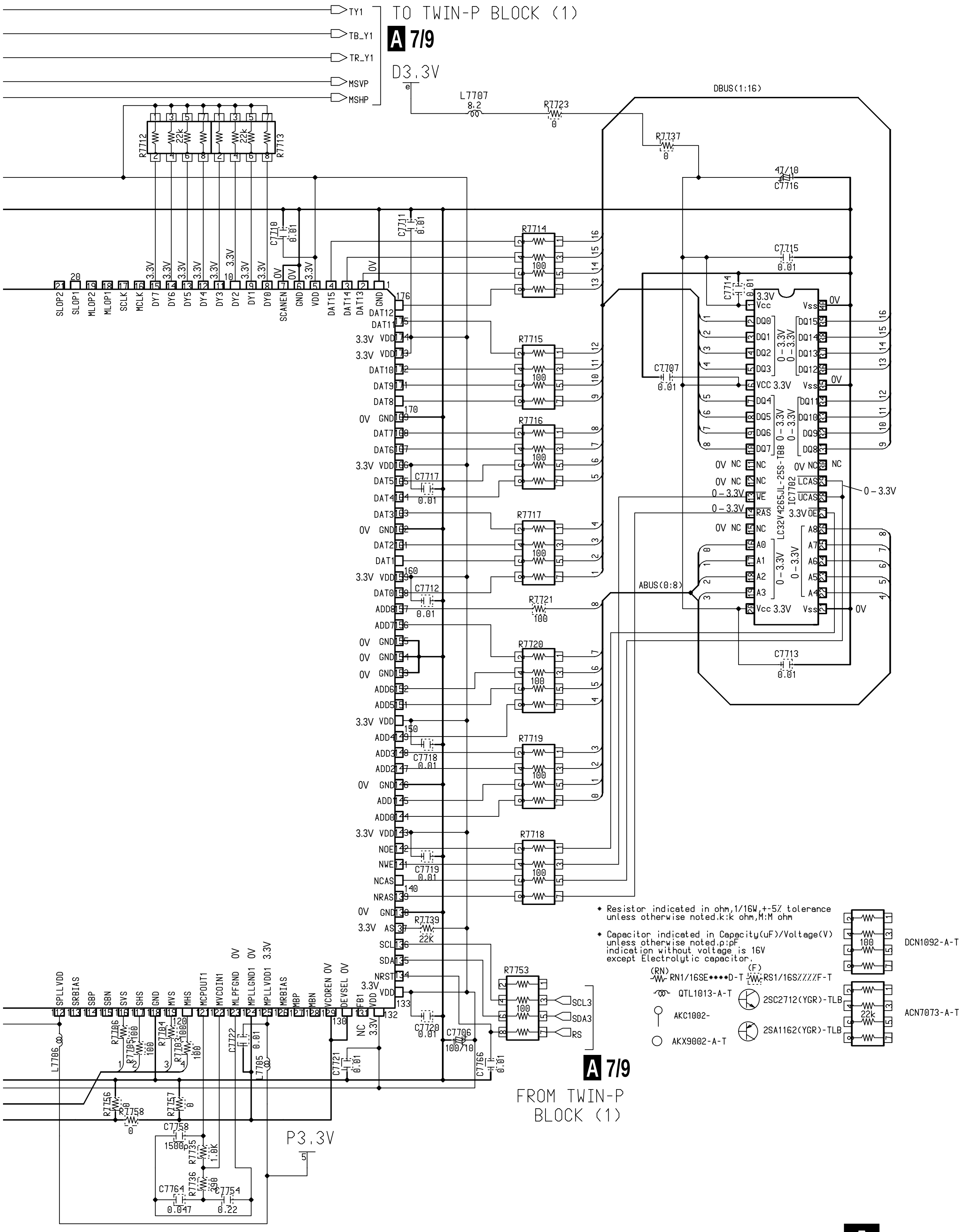
Pin No.	Voltage (V)
1	3.8V at ped.
2	3.8V at ped.
3	3.8V at ped.
4	0
5	3.5V at ped.
6	3.5V at ped.
7	3.5V at ped.
8	9

IC7503 (MC14053BF)

Pin No.	Voltage (V)
1	3.65
2	3.65
3	3.65
4	3.65
5	3.65
6	0
7	0
8	0
9	0 (sprit-screens) 9.0 (single-screen)
10	0 (sprit-screens) 9.0 (single-screen)
11	0 (sprit-screens) 9.0 (single-screen)
12	3.65
13	3.65
14	3.65
15	3.65
16	9.0

3.10 SIGNAL ASSY (8/9)


1
2
3
4
A
B
C
D
FROM MAIN UCOM BLOCK
A 3/9
FROM TWIN-P BLOCK
A 7/9
5V
GND (1)
IC7701
PQ3DZ13-TLB
VIN
VO
VC
GND
NC
3.3V
C7704 220/10
C7703 0.01
C7705 220/10
C7702 0.01
0.1V
GND
F7701
ATF1189-A-T
F7703
ATF1189-A-T
IN
GND
3.3V
A3.3V
D3.3V
0.8Vop 0.04Vdc at ped.
0.8Vp-p 0.5Vdc at ped.
R7707 180
R7708 200
R7709 200
R7710
R7711
22k
R7728 220
IC7704 KIA431F-TLB
R7729 15.0K (F)
R7730 10.0K (F)
C7735 0.01
C7726 10/50
C7701 0.01
C7736 0.01
C7734 47/10
R7731 0
C7709 0.01
C7724 0.1
R7732 750
C7761 1.0
DGND
A 8/9
SIGNAL ASSY
(AWV1917)
• TWIN-P (2) BLOCK
FROM TWIN-P BLOCK (1)
1.7Vp-p 4.2Vdc at ped.
MR_Y2
C7725 10/50
MB_Y2
C7727 10/50
1.7Vop 4.65Vdc at ped.
MY2
C7728 10/50
1.7Vp-p 4.0Vdc at ped.
SR_Y2
C7760 10/50
A 7/9
SB_Y2
C7729 10/50
1.7Vop 4.5Vdc at ped.
SY2
C7730 10/50
H.BLK
C7739 C7767 C7745 C7768 C7737 C7762 C7763 C7744 C7746 C7769 C7740 C7747 C7748 C7741 C7770 C7749 C7771 C7738 C7752 C7753 C7742 C7750 C7772 C7743 C7751
C7755 100/10
IC7703
CM0010AF
VREF VG FSADJ DAVDD YOUT DAGND UOUT DAVDD VOUT DAGND AGND GND DC7 DC6 DC5 DC4 DC3 DC2 DC1 DC0 NBLANK NVSO NHSO
2.3V MCVREFH
AGND MVIN AVDD MVCLAMP 1.7V MCVREF128 1.7V MUCLAMP 1.7V AGND MUIN 1.7V AVDD 3.3V MCVREFL 0.6V MYVREFH 2.8V AGND AVDD 3.3V MYVREF16 0.8V MYVCLAMP 0.8V AGND 0V MYIN 0.8V AVDD 3.3V MYVREFL 0.6V SCVREFH 2.8V AGND SVIN 1.7V AVDD 3.3V SVCLAMP 1.7V SCVREF128 1.7V SUCLAMP 1.7V AGND SUIN 1.7V AVDD 3.3V SCVREFL 0.6V SYVREFH 2.8V AGND AVDD 3.3V SYVREF16 0.8V SYCLAMP 0.8V AGND 0V SYIN 0.8V AVDD 3.3V SYVREFL 0.6V NC AVDD
VDD TMODE0
TMODE1 TMODE2 TMODE3 TMODE4 GND TDO0 TDO1 TDO2 TDO3 TDO4 TDO5 TDO6 TDO7 GND GND GND VDD SYS_STOP FB3 SCPOUT SVCOIN SLPFGND 0V SPLLGND 0V 3.3V
C7708 0.01
C7733 0.01
C7732 47/10
C7731 0.1
NOT USE
FROM SUB COLOR DECORDER BLOCK
A 6/9
SVD
SHD
A 5/9
MVD
FROM MAIN COLOR DECORDER BLOCK
SYNC(1:4)
L7708 8.2
P3.3V
C7756 1500p
R7733 1.0K
R7734 390
C7765 0.22

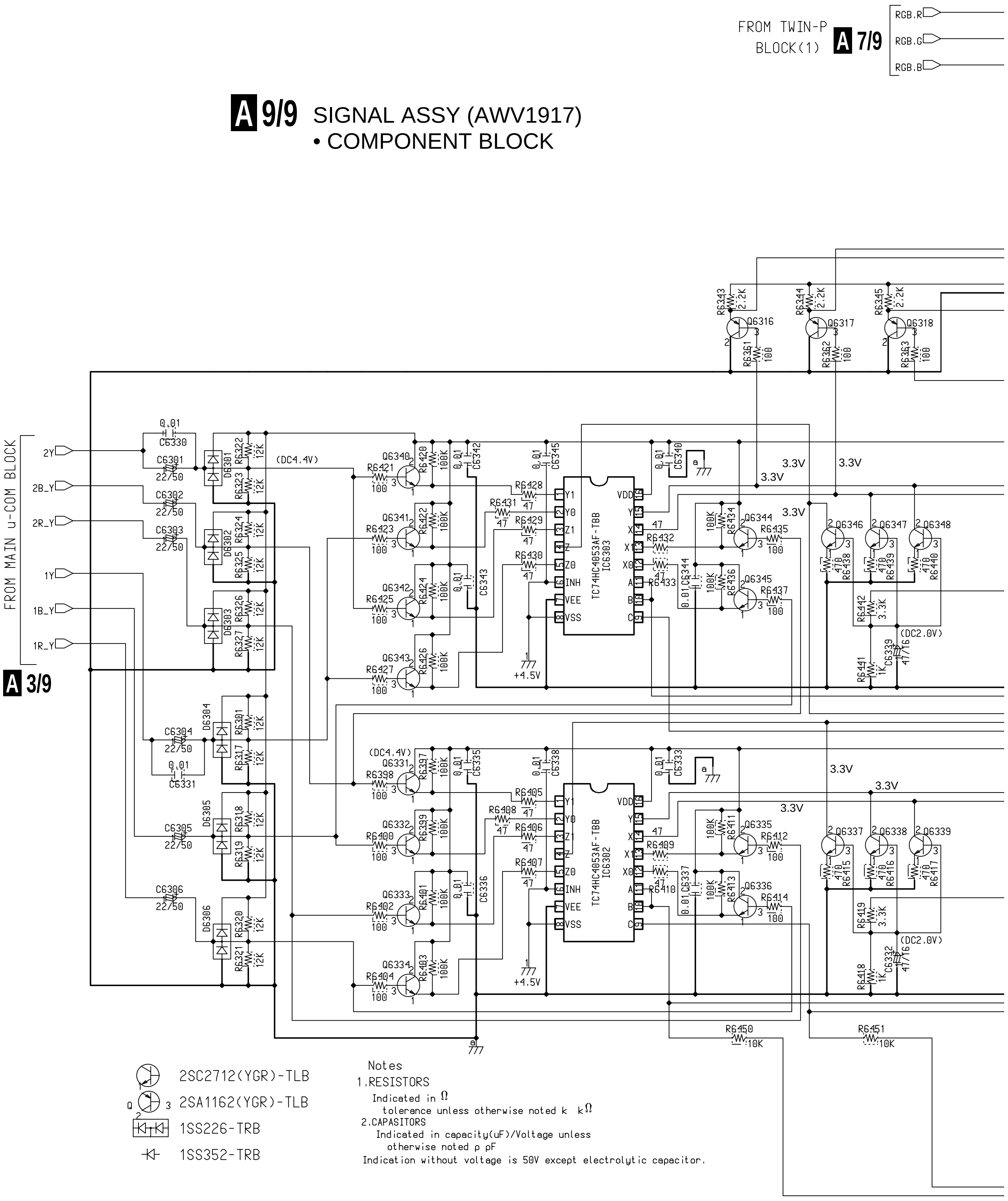

TY1
TB_Y1
TR_Y1
MSVP
MSHP
TO TWIN-P BLOCK (1)
A 7/9
D3.3V
L7707
8.2
R7723
0
DBUS(1:16)
R7737
0
47/10
C7716
R7712
R7713
22k
C7710
0.01
C7711
0.01
C7715
0.01
C7714
0.01
R7714
R7715
R7716
R7717
R7720
R7719
R7718
R7721
100
SLOP2
SLOP1
MLOP2
MLOP1
SCLK
MCLK
DY7
DY6
DY5
DY4
DY3
DY2
DY1
DY0
SCANEN
GND
VDD
DAT15
DAT14
DAT13
GND
DAT12
DAT11
VDD
DAT10
DAT9
DAT8
DAT7
DAT6
DAT5
DAT4
DAT3
DAT2
DAT1
DAT0
ADD8
ADD7
ADD6
ADD5
ADD4
ADD3
ADD2
ADD1
ADD0
NOE
NWE
NCAS
NRAS
AS
SCL
SDA
NRST
C7717
0.01
C7712
0.01
C7718
0.01
C7719
0.01
R7739
22K
C7720
0.01
C7706
100/10
C7766
0.01
C7707
0.01
C7713
0.01
IC7702
LC32V4265JL-25S-TB8
Vcc
Vss
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
NC
WE
RAS
LCAS
UCAS
OE
A0
A1
A2
A3
A4
A5
A6
A7
A8
0 – 3.3V
ABUS(0:8)
R7753
SCL3
SDA3
RS
A 7/9
FROM TWIN-P BLOCK (1)
SPLLVDD
SRBIAS
SBP
SBN
SVS
SHS
GND
MVS
MHS
MCPOUT1
MVCOIN1
MLPFGND
MPLLGND1
MPLLVDD1
MRBIAS
MBP
MBN
VCOREN
DEVSEL
FB1
VDD
NC
R7706
R7705
R7704
R7703
C7722
0.01
L7705
L7706
C7721
0.01
R7756
0
R7757
0
R7758
0
C7758
1500p
R7735
1.0K
R7736
390
C7764
0.047
C7754
0.22
P3.3V
DCN1092-A-T
ACN7073-A-T
(RN)
RN1/16SE****D-T
(F)
RS1/16SZZZZF-T
QTL1013-A-T
AKC1002-
AKX9002-A-T
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB

* Resistor indicated in ohm,1/16W,+-5% tolerance
unless otherwise noted.k:k ohm,M:M ohm

* Capacitor indicated in Capacity(uF)/Voltage(V)
unless otherwise noted.p:pF
indication without voltage is 16V
except Electrolytic capacitor.

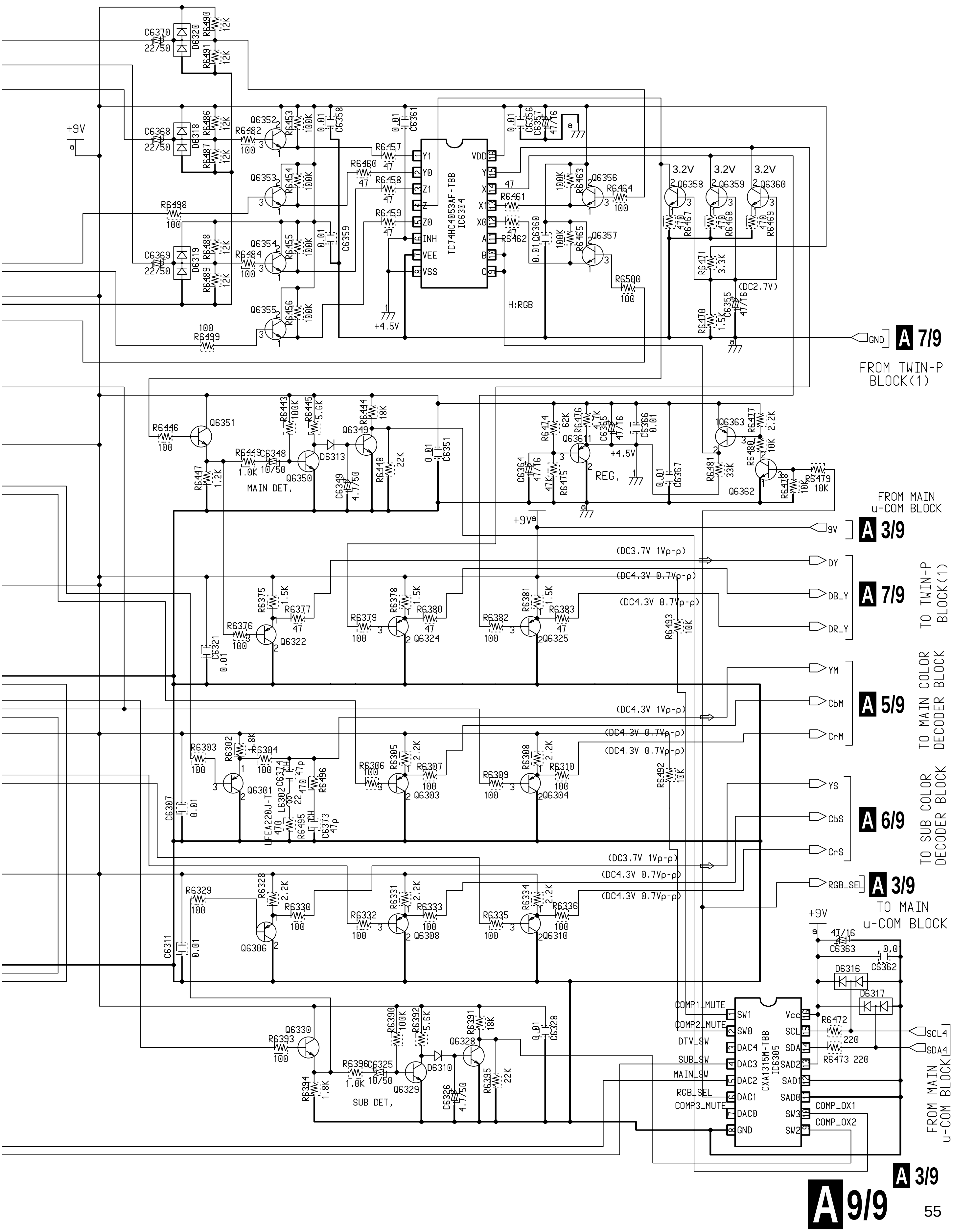
3.11 SIGNAL ASSY (9/9)

A 9/9 SIGNAL ASSY (AWV1917)
• COMPONENT BLOCK



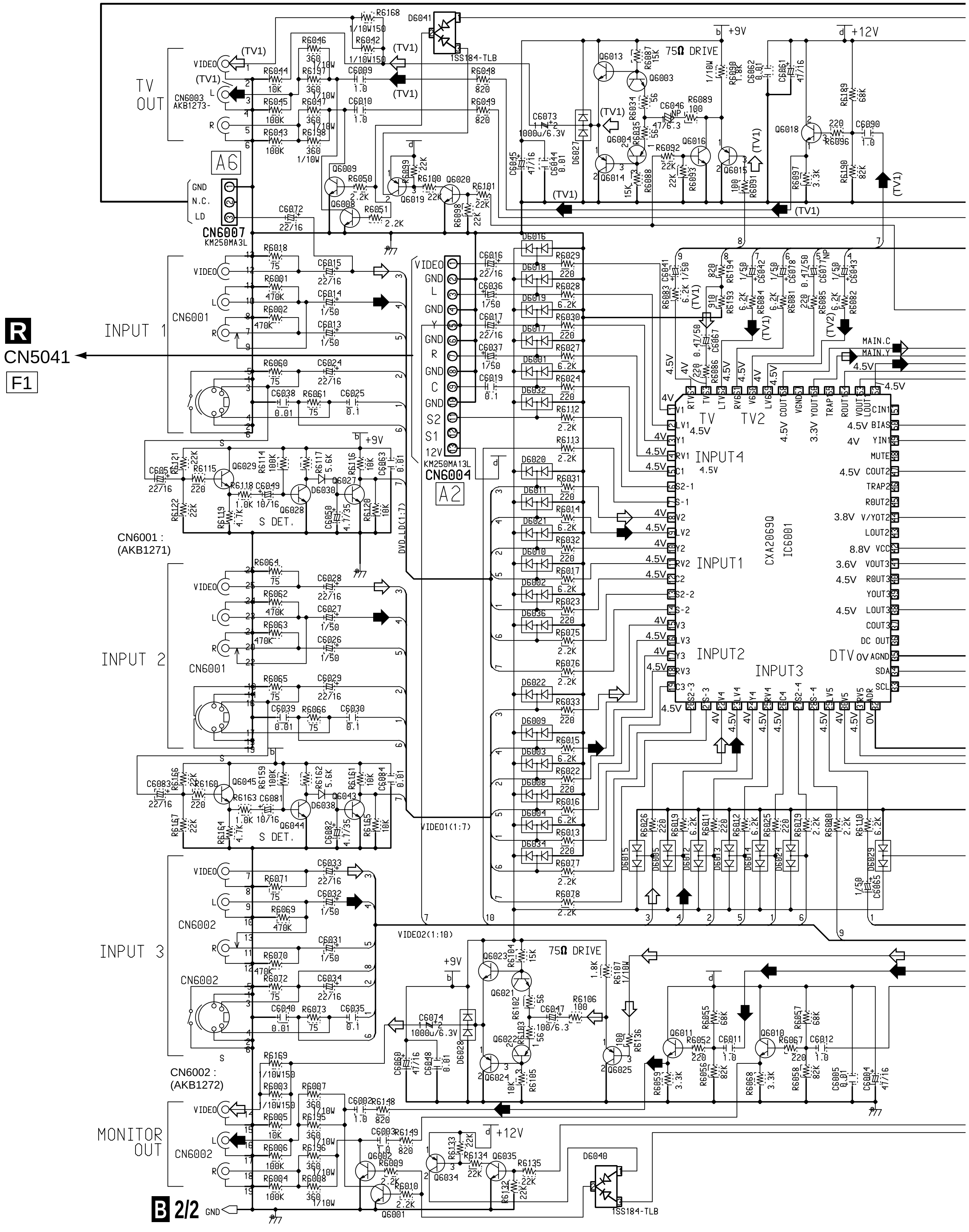
FROM TWIN-P BLOCK(1)
A 7/9
RGB.R
RGB.G
RGB.B
FROM MAIN u-COM BLOCK
A 3/9
2Y
2B_Y
2R_Y
1Y
1B_Y
1R_Y
0.01 C6330
C6301 22/50
C6302 22/50
C6303 22/50
C6304 22/50
0.01 C6331
C6305 22/50
C6306 22/50
D6301
D6302
D6303
D6304
D6305
D6306
R6322 12K
R6323 12K
R6324 12K
R6325 12K
R6326 12K
R6327 12K
R6301 12K
R6317 12K
R6318 12K
R6319 12K
R6320 12K
R6321 12K
(DC4.4V)
Q6340
Q6341
Q6342
Q6343
R6421 100
R6423 100
R6425 100
R6427 100
R6420 100K
R6422 100K
R6424 100K
R6426 100K
0.01 C6342
0.01 C6343
0.01 C6345
0.01 C6340
R6428 47
R6431 47
R6429 47
R6430 47
+4.5V
TC74HC4053AF-TBB IC6303
Y1 Y0 Z1 Z Z0 INH VEE VSS
VDD Y X X1 X0 A B C
47
R6432
R6433 47
0.01 C6344
3.3V
R6434 100K
R6436 100K
Q6344
Q6345
R6435 100
R6437 100
Q6346
Q6347
Q6348
R6438 470
R6439 470
R6440 470
R6442 3.3K
R6441 1K
C6339 47/16
(DC2.0V)
R6343 2.2K
R6344 2.2K
R6345 2.2K
Q6316
Q6317
Q6318
R6361 100
R6362 100
R6363 100
(DC4.4V)
Q6331
Q6332
Q6333
Q6334
R6398 100
R6400 100
R6402 100
R6404 100
R6397 100K
R6399 100K
R6401 100K
R6403 100K
0.01 C6335
0.01 C6336
0.01 C6338
0.01 C6333
R6405 47
R6408 47
R6406 47
R6407 47
+4.5V
TC74HC4053AF-TBB IC6302
47
R6409
R6410 47
0.01 C6337
R6411 100K
R6413 100K
Q6335
Q6336
R6412 100
R6414 100
Q6337
Q6338
Q6339
R6415 470
R6416 470
R6417 470
R6419 3.3K
R6418 1K
C6332 47/16
(DC2.0V)
R6450 10K
R6451 10K
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
1SS226-TRB
1SS352-TRB

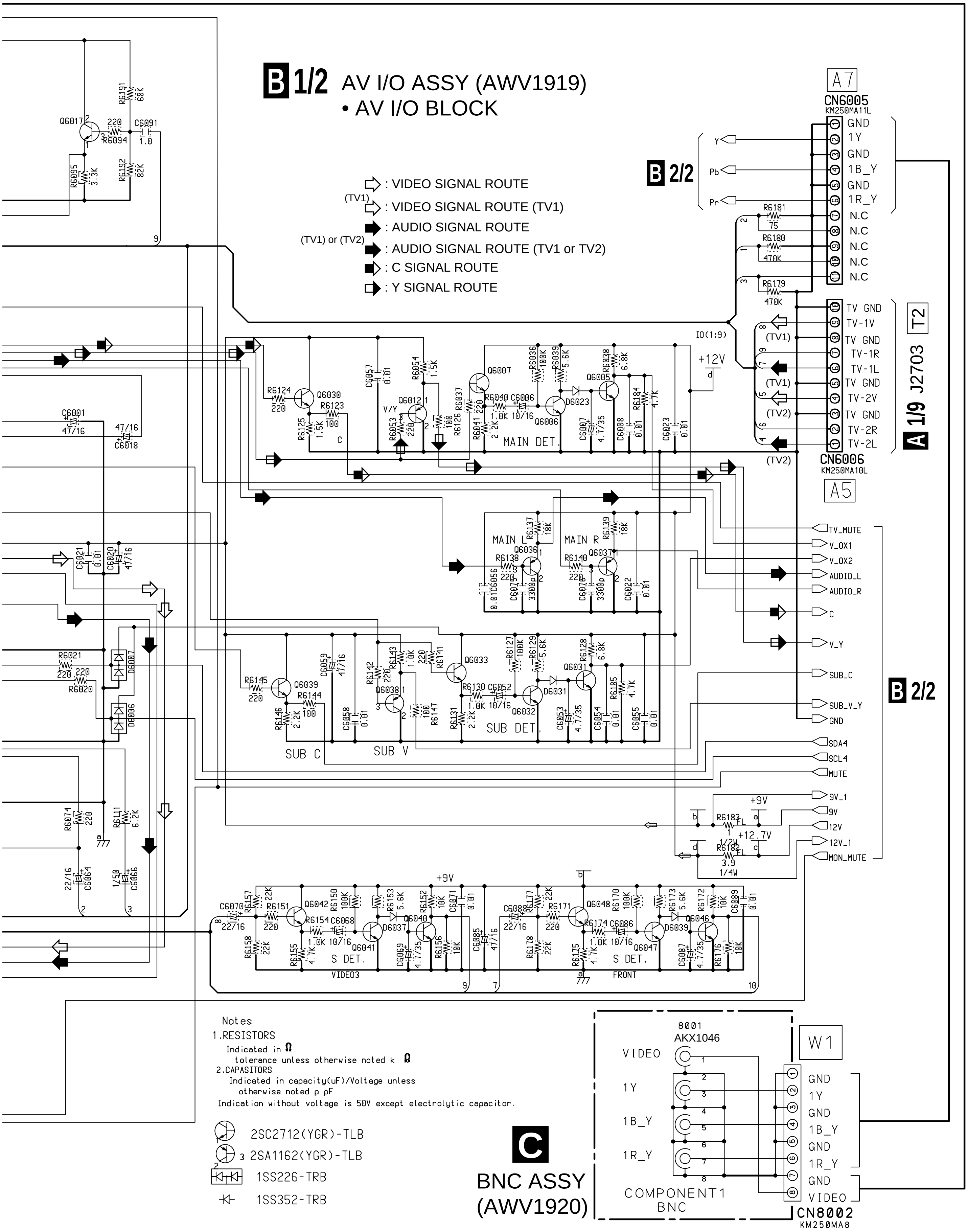
Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k kΩ
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless
otherwise noted ρ pF
Indication without voltage is 50V except electrolytic capacitor.


+9V
C6370 22/50
D6320
R6490 12K
R6491 12K
C6368 22/50
D6318
R6486 12K
R6487 12K
Q6352
R6482 100
R6453 100K
0.01 C6358
Q6353
R6454 100K
R6498 100
C6369 22/50
D6319
R6488 12K
R6489 12K
Q6354
R6484 100
R6455 100K
0.01 C6359
Q6355
R6456 100K
100 R6499
0.01 C6361
R6457 47
R6460 47
R6458 47
R6459 47
Y1 Y0 Z1 Z Z0 INH VEE VSS
VDD Y X X1 X0 A B C
TC74HC4053AF-TBB IC6304
+4.5V
H:RGB
0.01 C6356
C6357 47/16
R6461 47
R6462 47
C6360 0.01
Q6356 R6463 100K
R6464 100
Q6357 R6465 100K
R6500 100
3.2V Q6358
3.2V Q6359
3.2V Q6360
R6467 470
R6468 470
R6469 470
R6471 3.3K
(DC2.7V)
C6355 47/16
R6470 1.5K
GND
A 7/9
FROM TWIN-P BLOCK(1)
R6446 100
Q6351
R6447 1.2K
R6443 100K
R6445 5.6K
R6449 1.0K
C6348 10/50
Q6350
D6313
Q6349
R6444 18K
C6349 4.7/50
R6448 22K
0.01 C6351
MAIN DET,
R6474 62K
R6476 4.7K
C6365 47/16
C6366 0.01
Q6361
+4.5V
C6364 47/16
47K
R6475
REG,
0.01 C6367
Q6363
R6417 2.2K
R6480 10K
R6481 33K
Q6362
R6478 10K
R6479 10K
+9V
FROM MAIN u-COM BLOCK
9V
A 3/9
(DC3.7V 1Vp-p)
(DC4.3V 0.7Vp-p)
(DC4.3V 0.7Vp-p)
DY
DB_Y
DR_Y
A 7/9
TO TWIN-P BLOCK(1)
R6375 1.5K
R6377 47
R6376 100
Q6322
C6321 0.01
R6378 1.5K
R6380 47
R6379 100
Q6324
R6381 1.5K
R6383 47
R6382 100
Q6325
R6493 10K
YM
CbM
CrM
A 5/9
TO MAIN COLOR DECODER BLOCK
(DC4.3V 1Vp-p)
(DC4.3V 0.7Vp-p)
(DC4.3V 0.7Vp-p)
R6303 100
R6302 1.8K
R6304 100
Q6301
C6374 47p
L6302 22
R6496 470
LFEA220J-T
R6495 470
C6373 47p
C6307 0.01
R6306 100
R6305 2.2K
R6307 100
Q6303
R6309 100
R6308 2.2K
R6310 100
Q6304
R6492 10K
YS
CbS
CrS
A 6/9
TO SUB COLOR DECODER BLOCK
(DC3.7V 1Vp-p)
(DC4.3V 0.7Vp-p)
(DC4.3V 0.7Vp-p)
RGB_SEL
A 3/9
TO MAIN u-COM BLOCK
R6329 100
R6328 2.2K
R6330 100
Q6306
C6311 0.01
R6332 100
R6331 2.2K
R6333 100
Q6308
R6335 100
R6334 2.2K
R6336 100
Q6310
+9V
47/16 C6363
0.01 C6362
D6316
D6317
R6472 220
R6473 220
SCL4
SDA4
FROM MAIN u-COM BLOCK
Q6330
R6393 100
R6394 1.8K
R6390 100K
R6392 5.6K
R6396 1.0K
C6325 10/50
Q6329
D6310
Q6328
R6391 18K
C6326 4.7/50
R6395 22K
0.01 C6328
SUB DET,
COMP1_MUTE
COMP2_MUTE
DTV_SW
SUB_SW
MAIN_SW
RGB_SEL
COMP3_MUTE
SW1 SW0 DAC4 DAC3 DAC2 DAC1 DAC0 GND
Vcc SCL SDA SAD2 SAD1 SAD0 SW3 SW2
CXA1315M-TBB IC6305
COMP_OX1
COMP_OX2
A 3/9

A 9/9

3.12 AV I/O (1/2) and BNC ASSYS


A
B
C
D
TV OUT
CN6003
AKB1273-
VIDEO
L
R
(TV1)
A6
CN6007
KM250MA3L
GND
N.C.
LD
D6041
1SS184-TLB
75Ω DRIVE
+9V
+12V
INPUT 1
CN6001
R
CN5041
F1
VIDEO
GND
L
GND
Y
GND
R
GND
C
GND
S2
S1
12V
KM250MA13L
CN6004
A2
S DET.
CN6001 :
(AKB1271)
DVD_LD(1:7)
INPUT 2
CN6001
INPUT 3
CN6002
VIDEO1(1:7)
VIDEO2(1:10)
CN6002 :
(AKB1272)
MONITOR OUT
CN6002
B 2/2
GND
1SS184-TLB
CXA2069Q
IC6001
TV
TV2
INPUT4
INPUT1
INPUT2
INPUT3
DTV
MAIN.C
MAIN.Y
CIN1
BIAS
YIN1
MUTE
COUT2
TRAP2
ROUT2
V/YOT2
LOUT2
VCC
VOUT3
ROUT3
YOUT3
LOUT3
COUT3
DC OUT
AGND
SDA
SCL
Q6001
Q6002
Q6003
Q6004
Q6008
Q6009
Q6010
Q6011
Q6013
Q6014
Q6015
Q6016
Q6018
Q6019
Q6020
Q6021
Q6022
Q6023
Q6024
Q6025
Q6027
Q6028
Q6029
Q6034
Q6035
Q6043
Q6044
Q6045



B 1/2 AV I/O ASSY (AWV1919)
• AV I/O BLOCK

: VIDEO SIGNAL ROUTE
(TV1) : VIDEO SIGNAL ROUTE (TV1)
: AUDIO SIGNAL ROUTE
(TV1) or (TV2) : AUDIO SIGNAL ROUTE (TV1 or TV2)
: C SIGNAL ROUTE
: Y SIGNAL ROUTE

Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k Ω
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless
otherwise noted p pF
Indication without voltage is 50V except electrolytic capacitor.

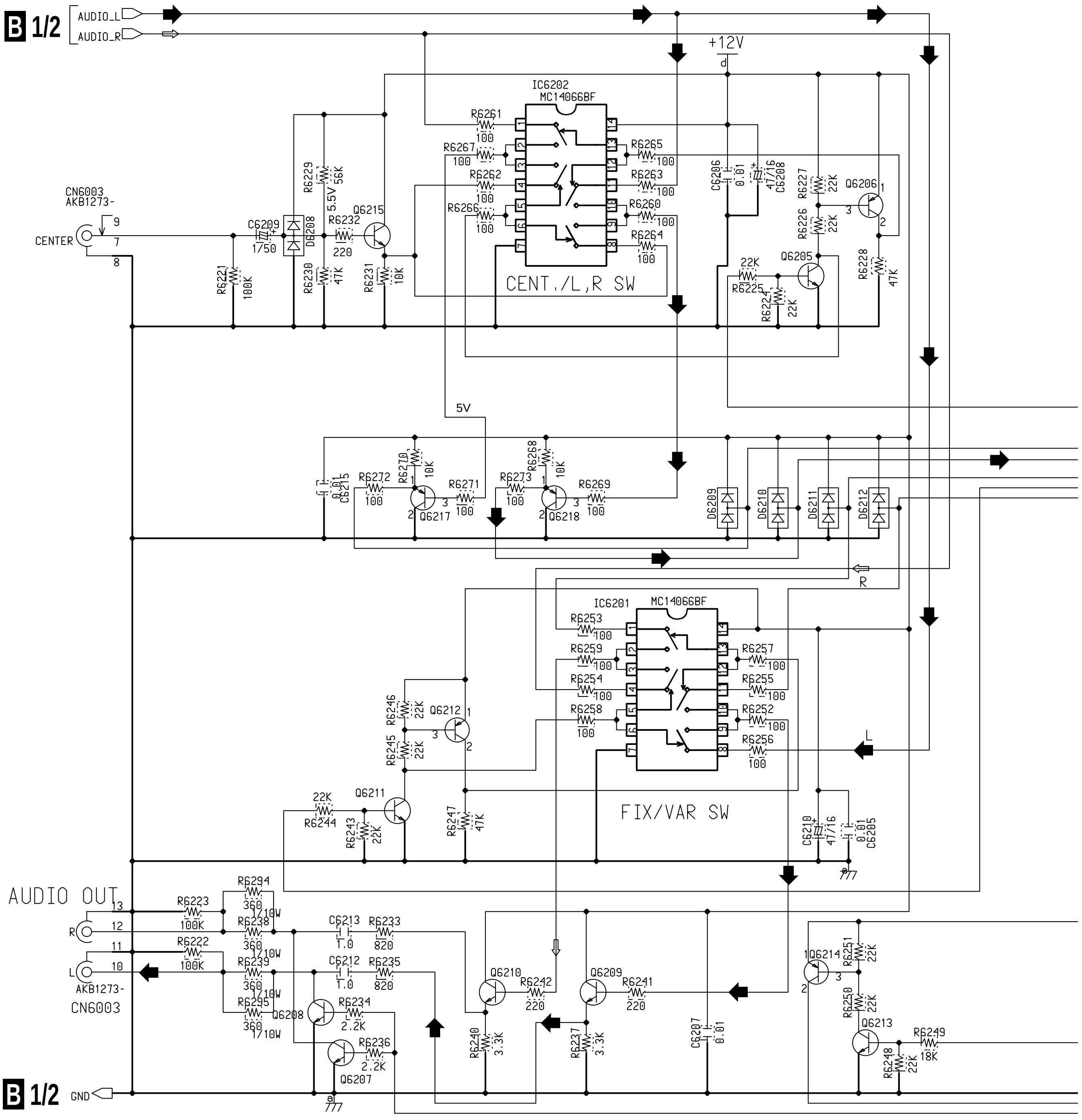
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
1SS226-TRB
1SS352-TRB

C BNC ASSY (AWV1920)

A7
CN6005
KM250MA11L
GND
1Y
GND
1B_Y
GND
1R_Y
N.C
N.C
N.C
N.C
N.C
B 2/2
Y
Pb
Pr
R6181 75
R6180 470K
R6179 470K
T2
TV GND
TV-1V
TV GND
TV-1R
TV-1L
TV GND
TV-2V
TV GND
TV-2R
TV-2L
(TV1)
(TV2)
J2703
A 1/9
CN6006
KM250MA10L
A5
IO(1:9)
+12V
Q6017
R6191 68K
220 R6094
C6091 1.0
R6095 3.3K
R6192 82K
R6124 220
Q6030
R6123 100
R6125 1.5K
C6057 0.01
R6054 1.5K
Q6012
V/Y
R6053 220
R6037 100
R6126
Q6007
R6036 100K
R6039 5.6K
R6038 6.8K
R6040 1.0K
C6006 10/16
R6041 2.2K
Q6006
D6023
Q6005
C6007 4.7/35
C6008 0.01
R6184 4.7K
C6023 0.01
MAIN DET.
C6001 47/16
47/16 C6018
C6021 0.01
C6020 47/16
MAIN L
R6137 18K
Q6036
R6138 220
C6056 0.01
C6079 3300p
MAIN R
R6139 18K
Q6037
R6140 220
C6080 3300p
C6022 0.01
TV_MUTE
V_OX1
V_OX2
AUDIO_L
AUDIO_R
C
V_Y
SUB_C
SUB_V_Y
GND
SDA4
SCL4
MUTE
9V_1
9V
12V
12V_1
MON_MUTE
B 2/2
R6021 220
220 R6020
D6007
D6006
R6145 220
Q6039
R6146 2.2K
R6144 100
C6059 47/16
C6058 0.01
R6142 220
R6143 1.0K
Q6038
R6147 100
R6141 220
Q6033
R6127 100K
R6129 5.6K
R6128 6.8K
R6130 1.0K
C6052 10/16
R6131 2.2K
Q6032
D6031
Q6031
C6053 4.7/35
C6054 0.01
R6185 4.7K
C6055 0.01
SUB C
SUB V
SUB DET.
R6074 220
R6111 6.2K
22/16 C6064
1/50 C6066
+9V
R6183 FL 1 1/2W
+12.7V
R6182 FL 3.9 1/4W
+9V
C6070 22/16
R6157 22K
R6151 220
Q6042
R6150 100K
R6153 5.6K
R6152 10K
C6071 0.01
R6154 1.0K
C6068 10/16
D6037
Q6040
R6158 22K
R6155 4.7K
Q6041
C6069 4.7/35
R6156 10K
S DET.
VIDEO3
C6085 47/16
C6088 22/16
R6177 22K
R6171 220
Q6048
R6170 100K
R6173 5.6K
R6172 10K
C6089 0.01
R6174 1.0K
C6086 10/16
D6039
Q6046
R6178 22K
R6175 4.7K
Q6047
C6087 4.7/35
R6176 10K
S DET.
FRONT
8001
AKX1046
VIDEO
1Y
1B_Y
1R_Y
COMPONENT1
BNC
W1
GND
1Y
GND
1B_Y
GND
1R_Y
GND
VIDEO
CN8002
KM250MA8

3.13 AV I/O (2/2) and SR ASSYS

A


B 1/2
AUDIO_L
AUDIO_R
+12V
IC6202
MC14066BF
R6261 100
R6267 100
R6262 100
R6266 100
R6265 100
R6263 100
R6260 100
R6264 100
CENT./L,R SW
C6206 0.01
C6208 47/16
R6227 22K
R6226 22K
Q6206
Q6205
R6225 22K
R6224 22K
R6228 47K
CN6003
AKB1273-
CENTER
C6209 1/50
D6208
R6229 56K
5.5V
R6232 220
Q6215
R6221 100K
R6230 47K
R6231 10K
5V
C6215 0.01
R6272 100
R6270 10K
R6271 100
Q6217
R6268 10K
R6273 100
R6269 100
Q6218
D6209
D6210
D6211
D6212
R
IC6201
MC14066BF
R6253 100
R6259 100
R6254 100
R6258 100
R6257 100
R6255 100
R6252 100
R6256 100
L
FIX/VAR SW
R6246 22K
R6245 22K
Q6212
Q6211
R6244 22K
R6243 22K
R6247 47K
C6210 47/16
C6205 0.01
AUDIO OUT
R6223 100K
R6222 100K
R6294 360 1/10W
R6238 360 1/10W
R6239 360 1/10W
R6295 360 1/10W
C6213 1.0
C6212 1.0
R6233 820
R6235 820
Q6208
R6234 2.2K
R6236 2.2K
Q6207
Q6210
R6242 220
Q6209
R6241 220
R6240 3.3K
R6237 3.3K
C6207 0.01
Q6214
R6251 22K
R6250 22K
Q6213
R6249 18K
R6248 22K
AKB1273-
CN6003
B 1/2
GND

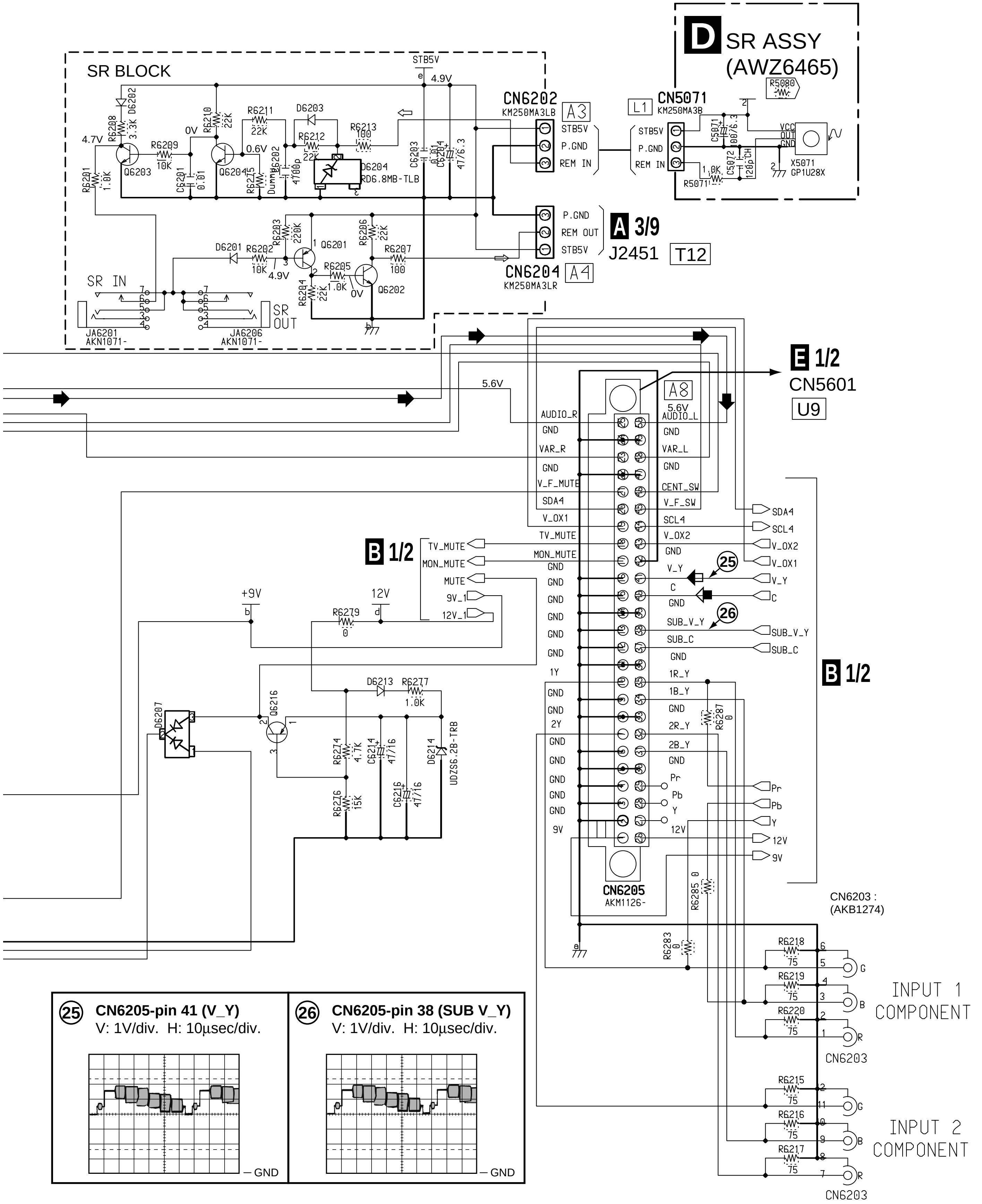
B
C
D

B 2/2 AV I/O ASSY (AWV1919)
• AV I/O and SR BLOCKS

➡ : AUDIO SIGNAL ROUTE
➡ : C SIGNAL ROUTE
⇨ : Y SIGNAL ROUTE

Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k Ω
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless
otherwise noted p pF
Indication without voltage is 50V except electrolytic capacitor.

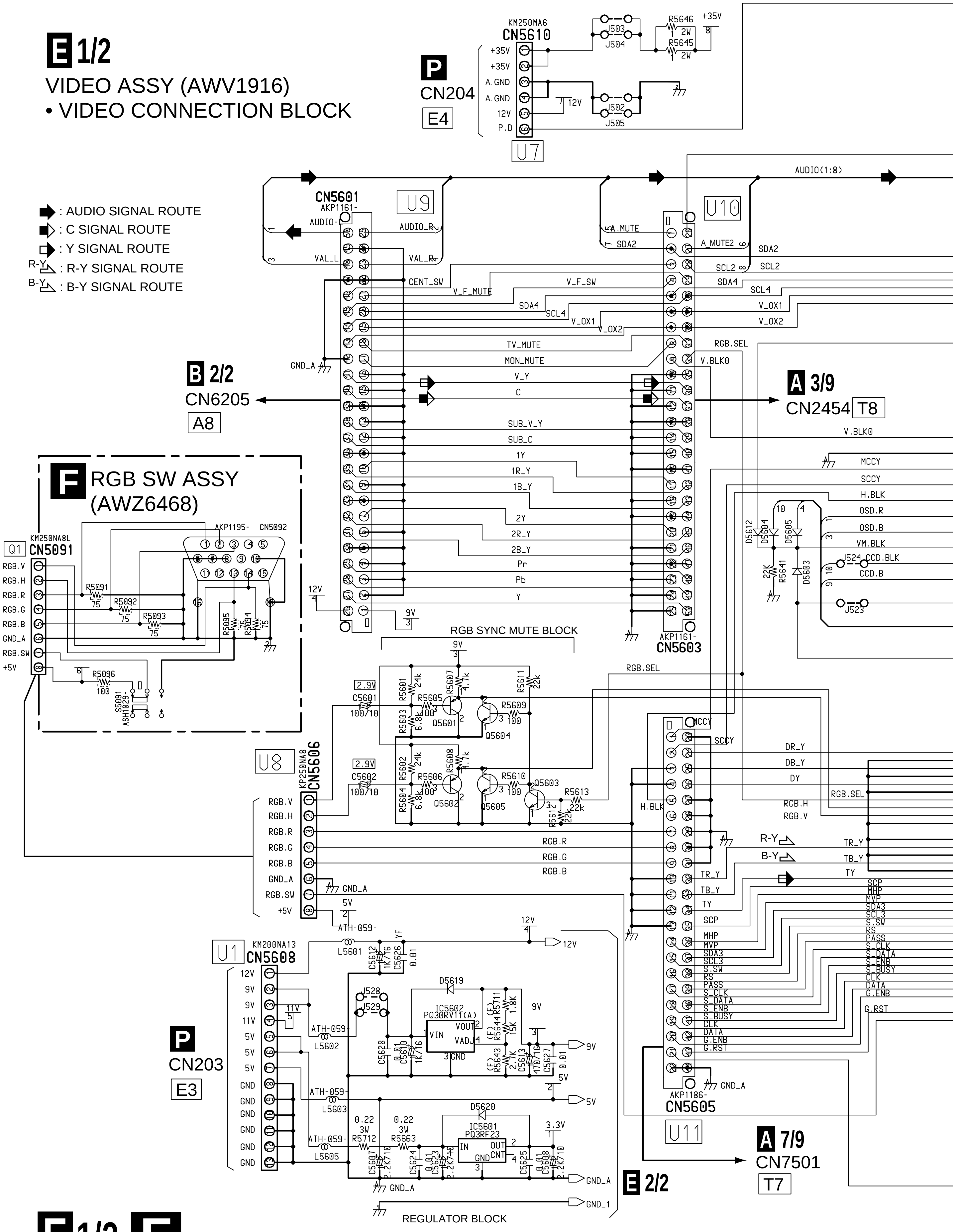
2SC2712(YGR)-TLB
Q 1 2 3 2SA1162(YGR)-TLB
1SS352-TRB

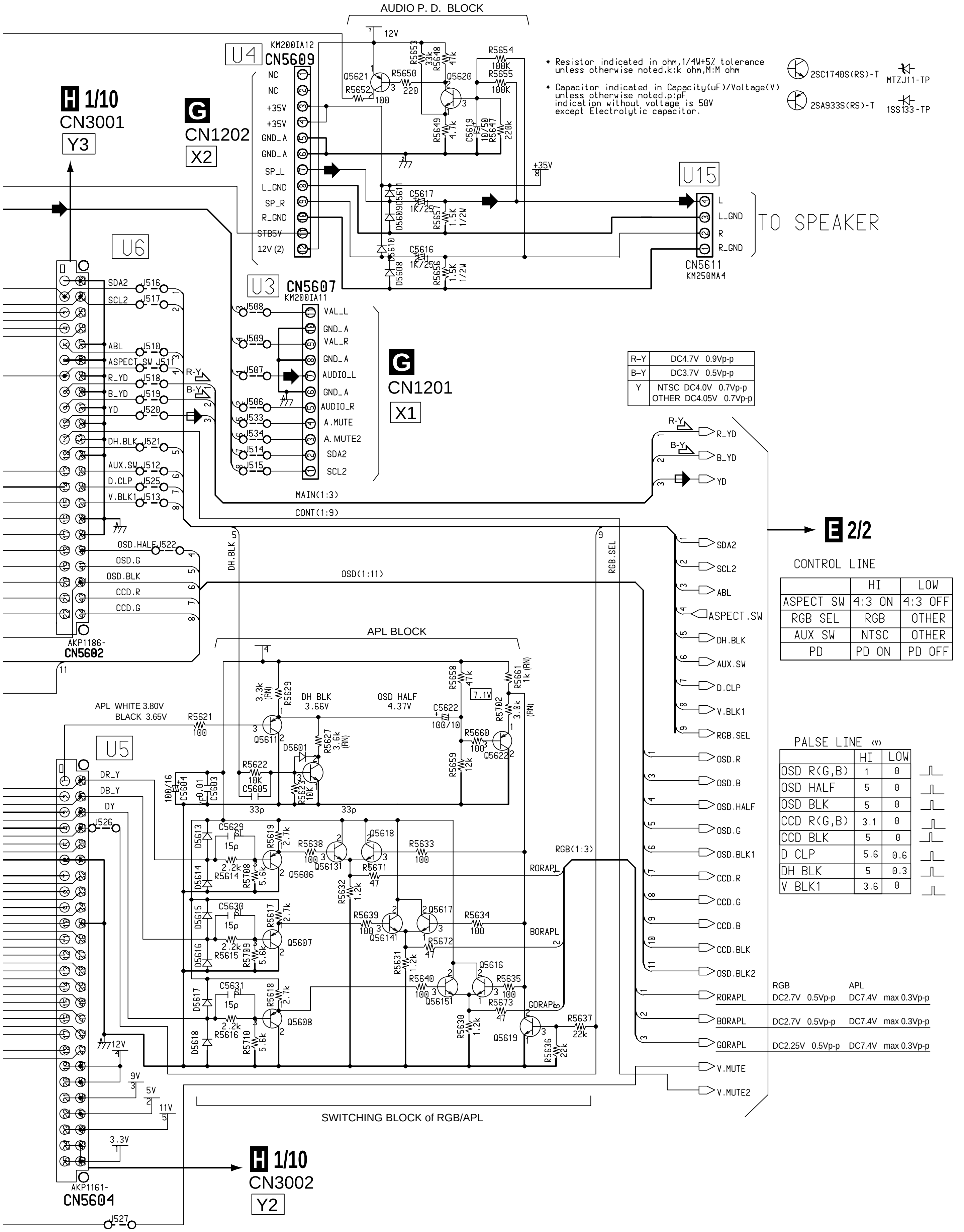

SR BLOCK
STB5V
e
4.9V
D6202
R6208 3.3K
R6210 22k
R6211 22K
D6203
R6213 100
R6212 22K
4.7V
0V
R6209 10K
0.6V
Q6203
Q6204
R6201 1.0K
C6201 0.01
R6215 Dummy
C6202 4700p
D6204 RD6.8MB-TLB
C6203 0.01
C6204 47/6.3
CN6202
KM250MA3LB
A3
STB5V
P.GND
REM IN
D SR ASSY (AWZ6465)
R5080
L1
CN5071
KM250MA3B
C5071 100/6.3
C5072 120p CH
R5071 1.0K
VCC
OUT
GND
X5071
GP1U28X
P.GND
REM OUT
STB5V
A 3/9
J2451
T12
CN6204
KM250MA3LR
A4
R6203 220K
R6206 22K
D6201
R6202 10K
Q6201
R6207 100
4.9V
R6205 1.0K
R6204 22K
0V
Q6202
SR IN
SR OUT
JA6201 AKN1071-
JA6206 AKN1071-
E 1/2
CN5601
U9
5.6V
A8
AUDIO_R
GND
VAR_R
GND
V_F_MUTE
SDA4
V_OX1
TV_MUTE
MON_MUTE
AUDIO_L
VAR_L
CENT_SW
V_F_SW
SCL4
V_OX2
V_Y
C
SUB_V_Y
SUB_C
1R_Y
1B_Y
2R_Y
2B_Y
1Y
2Y
Pr
Pb
Y
12V
9V
SDA4
SCL4
V_OX2
V_OX1
V_Y
C
SUB_V_Y
SUB_C
Pr
Pb
Y
12V
9V
25
26
B 1/2
TV_MUTE
MON_MUTE
MUTE
9V_1
12V_1
+9V
b
12V
d
R6279 0
D6207
Q6216
D6213
R6277 1.0K
R6274 4.7K
C6214 47/16
D6214 UDZS6.2B-TRB
R6276 15K
C6216 47/16
CN6205
AKM1126-
R6287 0
R6285 0
R6283 0
B 1/2
CN6203 : (AKB1274)
R6218 75
R6219 75
R6220 75
G
B
R
INPUT 1 COMPONENT
CN6203
R6215 75
R6216 75
R6217 75
INPUT 2 COMPONENT
CN6203
GND

㉕ **CN6205-pin 41 (V_Y)**
V: 1V/div. H: 10µsec/div.

㉖ **CN6205-pin 38 (SUB V_Y)**
V: 1V/div. H: 10µsec/div.

3.14 VIDEO (1/2) and RGB SW ASSYS


E 1/2
VIDEO ASSY (AWV1916)
• VIDEO CONNECTION BLOCK
: AUDIO SIGNAL ROUTE
: C SIGNAL ROUTE
: Y SIGNAL ROUTE
R-Y : R-Y SIGNAL ROUTE
B-Y : B-Y SIGNAL ROUTE
P
CN204
E4
KM250MA6
CN5610
+35V
+35V
A. GND
A. GND
12V
P.D
U7
J503
J504
J502
J505
R5646 1 2W
R5645 1 2W
+35V 8
12V 7
AUDIO(1:8)
CN5601
AKP1161-
U9
U10
AUDIO_L
AUDIO_R
VAL_L
VAL_R
CENT_SW
V_F_MUTE
V_F_SW
SDA4
SCL4
V_OX1
V_OX2
TV_MUTE
MON_MUTE
V_Y
C
SUB_V_Y
SUB_C
1Y
1R_Y
1B_Y
2Y
2R_Y
2B_Y
Pr
Pb
Y
GND_A
A.MUTE
SDA2
A_MUTE2
SCL2
SCL4
RGB.SEL
V.BLK0
B 2/2
CN6205
A8
A 3/9
CN2454
T8
12V 4
9V 3
AKP1161-
CN5603
F
RGB SW ASSY
(AWZ6468)
Q1
KM250NA8L
CN5091
RGB.V
RGB.H
RGB.R
RGB.G
RGB.B
GND_A
RGB.SW
+5V
AKP1195-
CN5092
R5091 75
R5092 75
R5093 75
R5095 75
R5094 75
R5096 100
S5091 ASH1029-
MCCY
SCCY
H.BLK
OSD.R
OSD.B
VM.BLK
CCD.BLK
CCD.B
J524
J523
D5612
D5604
D5605
D5603
R5641 22K
RGB SYNC MUTE BLOCK
9V 3
RGB.SEL
2.9V
C5601 100/10
C5602 100/10
R5601 24k
R5602 24k
R5603 6.8k
R5604 6.8k
R5605 100
R5606 100
R5607 4.7k
R5608 4.7k
R5609 100
R5610 100
R5611 22k
R5612 22k
R5613 22k
Q5601
Q5602
Q5603
Q5604
Q5605
U8
KP250NA8
CN5606
RGB.V
RGB.H
RGB.R
RGB.G
RGB.B
GND_A
RGB.SW
+5V
5V 2
RGB.R
RGB.G
RGB.B
H.BLK
DR_Y
DB_Y
DY
RGB.H
RGB.V
R-Y
B-Y
TR_Y
TB_Y
TY
SCP
MHP
MVP
SDA3
SCL3
S.SW
RS
PASS
S_CLK
S_DATA
S_ENB
S_BUSY
CLK
DATA
G.ENB
G.RST
GND_A
AKP1186-
CN5605
U11
A 7/9
CN7501
T7
E 2/2
U1
KM200NA13
CN5608
12V
9V
9V
11V
5V
5V
5V
GND
GND
GND
GND
GND
GND
P
CN203
E3
ATH-059-
L5601
L5602
L5603
L5605
C5612 1K/16
C5626 0.01
YF
12V 4
12V
D5619
J528
J529
11V 5
IC5602 PQ30RV11(A)
VIN
VOUT
VADJ
GND
R5711 1.8K
R5644 15K
R5643 2.7K
C5628 0.01
C5610 1K/16
C5613 470/16
C5627 0.01
9V 3
9V
5V 2
5V
D5620
IC5601 PQ3RF23
IN
OUT
CNT
GND
0.22 3W R5712
0.22 3W R5663
C5607 2.2K/10
C5624 0.01
C5623 2.2K/10
C5625 0.01
C5608 2.2K/10
3.3V 1
GND_A
GND_1
REGULATOR BLOCK


AUDIO P. D. BLOCK
U4
KM200IA12
CN5609
NC
NC
+35V
+35V
GND_A
GND_A
SP_L
L_GND
SP_R
R_GND
STB5V
12V (2)
12V
Q5621
R5652 100
R5650 220
R5653 33k
R5648 47k
Q5620
R5654 100K
R5655 100K
R5649 4.7k
C5619 10/50
R5647 220k
+35V 8
D5611
D5609
C5617 1K/25
R5657 1.5k 1/2W
D5610
D5608
C5616 1K/25
R5656 1.5k 1/2W
U15
CN5611
KM250MA4
L
L_GND
R
R_GND
TO SPEAKER
H 1/10
CN3001
Y3
G
CN1202
X2
U6
U3
CN5607
KM200IA11
VAL_L
GND_A
VAL_R
GND_A
AUDIO_L
GND_A
AUDIO_R
A.MUTE
A. MUTE2
SDA2
SCL2
J508
J509
J507
J506
J533
J534
J514
J515
G
CN1201
X1
SDA2
SCL2
ABL
ASPECT SW
R_YD
B_YD
YD
DH.BLK
AUX.SW
D.CLP
V.BLK1
J516
J517
J510
J511
J518
J519
J520
J521
J512
J525
J513
R-Y
B-Y
OSD.HALF
OSD.G
OSD.BLK
CCD.R
CCD.G
J522
AKP1186-
CN5602
MAIN(1:3)
CONT(1:9)
DH.BLK
RGB.SEL
OSD(1:11)
R-Y
B-Y
R_YD
B_YD
YD
E 2/2
SDA2
SCL2
ABL
ASPECT.SW
DH.BLK
AUX.SW
D.CLP
V.BLK1
RGB.SEL
OSD.R
OSD.B
OSD.HALF
OSD.G
OSD.BLK1
CCD.R
CCD.G
CCD.B
CCD.BLK
OSD.BLK2
RORAPL
BORAPL
GORAPL
V.MUTE
V.MUTE2
APL BLOCK
APL WHITE 3.80V
BLACK 3.65V
R5621 100
Q5611
R5629 3.3k (RN)
DH BLK 3.66V
OSD HALF 4.37V
C5622 100/10
R5658 47k
7.1V
R5661 1k (RN)
R5702 3.0k (RN)
R5660 100
Q5622
R5659 12k
D5601
R5627 3.6k (RN)
R5622 10K
C5605
R5623 10K
U5
DR_Y
DB_Y
DY
J526
C5604 100/16
C5603 0.01
33p
33p
D5613
C5629 15p
R5619 2.7k
R5638 100
Q5613
Q5618
R5633 100
RGB(1:3)
RORAPL
D5614
R5614 2.2k
R5708 5.6k
Q5606
R5671 47
R5632 1.2k
D5615
C5630 15p
R5617 2.7k
R5639 100
Q5614
Q5617
R5634 100
BORAPL
D5616
R5615 2.2k
R5709 5.6k
Q5607
R5672 47
R5631 1.2k
Q5616
D5617
C5631 15p
R5618 2.7k
R5640 100
Q5615
R5635 100
GORAPL
R5673 47
R5637 22k
D5618
R5616 2.2k
R5710 5.6k
Q5608
R5630 1.2k
Q5619
R5636 22k
12V
9V
5V
11V
3.3V
AKP1161-
CN5604
J527
SWITCHING BLOCK of RGB/APL
H 1/10
CN3002
Y2
2SC1740S(RS)-T
2SA933S(RS)-T
MTZJ11-TP
1SS133-TP

- Resistor indicated in ohm,1/4W+5% tolerance unless otherwise noted.k:k ohm,M:M ohm
- Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted.p:pF indication without voltage is 50V except Electrolytic capacitor.

R-Y	DC4.7V 0.9Vp-p
B-Y	DC3.7V 0.5Vp-p
Y	NTSC DC4.0V 0.7Vp-p OTHER DC4.05V 0.7Vp-p

CONTROL LINE

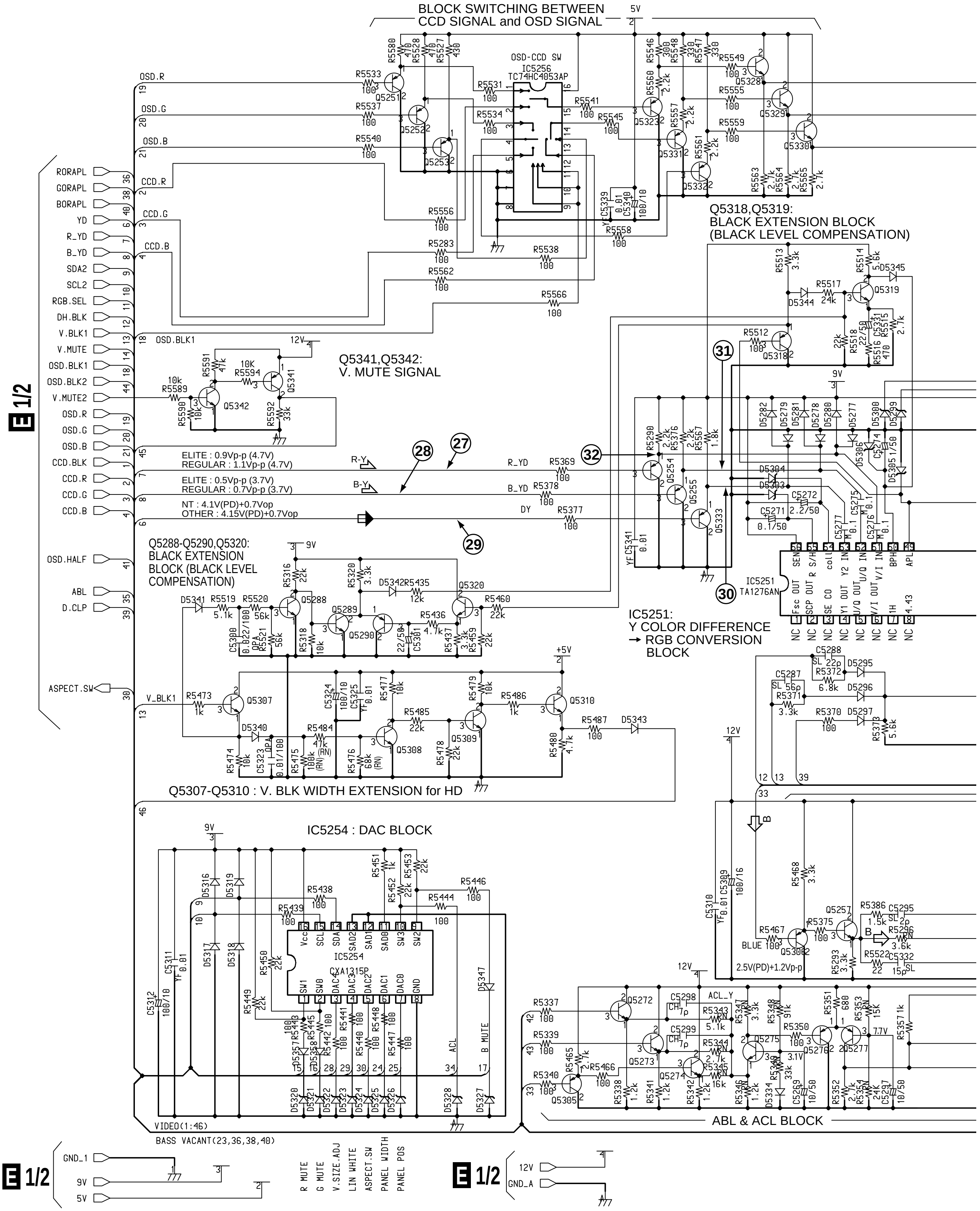
	HI	LOW
ASPECT SW	4:3 ON	4:3 OFF
RGB SEL	RGB	OTHER
AUX SW	NTSC	OTHER
PD	PD ON	PD OFF

PALSE LINE (V)

	HI	LOW
OSD R(G,B)	1	0
OSD HALF	5	0
OSD BLK	5	0
CCD R(G,B)	3.1	0
CCD BLK	5	0
D CLP	5.6	0.6
DH BLK	5	0.3
V BLK1	3.6	0

	RGB	APL
RORAPL	DC2.7V 0.5Vp-p	DC7.4V max 0.3Vp-p
BORAPL	DC2.7V 0.5Vp-p	DC7.4V max 0.3Vp-p
GORAPL	DC2.25V 0.5Vp-p	DC7.4V max 0.3Vp-p

3.15 VIDEO ASSY (2/2)


A
B
C
D
BLOCK SWITCHING BETWEEN CCD SIGNAL and OSD SIGNAL
5V
OSD-CCD SW
IC5256
TC74HC4053AP
OSD.R
OSD.G
OSD.B
CCD.R
CCD.G
CCD.B
OSD.BLK1
RORAPL
GORAPL
BORAPL
YD
R_YD
B_YD
SDA2
SCL2
RGB.SEL
DH.BLK
V.BLK1
V.MUTE
OSD.BLK1
OSD.BLK2
V.MUTE2
OSD.R
OSD.G
OSD.B
CCD.BLK
CCD.R
CCD.G
CCD.B
OSD.HALF
ABL
D.CLP
ASPECT.SW
E 1/2
Q5318,Q5319:
BLACK EXTENSION BLOCK
(BLACK LEVEL COMPENSATION)
Q5341,Q5342:
V. MUTE SIGNAL
12V
9V
ELITE : 0.9Vp-p (4.7V)
REGULAR : 1.1Vp-p (4.7V)
ELITE : 0.5Vp-p (3.7V)
REGULAR : 0.7Vp-p (3.7V)
NT : 4.1V(PD)+0.7Vop
OTHER : 4.15V(PD)+0.7Vop
R-Y
B-Y
R_YD
B_YD
DY
27
28
29
30
31
32
Q5288-Q5290,Q5320:
BLACK EXTENSION
BLOCK (BLACK LEVEL
COMPENSATION)
IC5251
TA1276AN
IC5251:
Y COLOR DIFFERENCE
→ RGB CONVERSION
BLOCK
SEN
R S/H
coll
Y2 IN
U/Q IN
V/I IN
BPH
APL
Fsc OUT
SCP OUT
SE CO
Y1 OUT
U/Q OUT
V/I OUT
1H
4.43
NC
+5V
V_BLK1
Q5307-Q5310 : V. BLK WIDTH EXTENSION for HD
IC5254 : DAC BLOCK
IC5254
CXA1315P
Vcc
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
GND
ACL
B MUTE
BLUE
2.5V(PD)+1.2Vp-p
ACL_Y
3.1V
7.7V
ABL & ACL BLOCK
VIDEO(1:46)
BASS VACANT(23,36,38,40)
GND_1
9V
5V
R MUTE
G MUTE
V.SIZE.ADJ
LIN WHITE
ASPECT.SW
PANEL WIDTH
PANEL POS
12V
GND_A
Q5251
Q5252
Q5253
Q5323
Q5331
Q5332
Q5328
Q5329
Q5330
Q5342
Q5341
Q5254
Q5255
Q5333
Q5288
Q5289
Q5290
Q5320
Q5307
Q5308
Q5309
Q5310
Q5257
Q5306
Q5272
Q5273
Q5274
Q5275
Q5276
Q5277
Q5305

: Y SIGNAL ROUTE

R-Y : R-Y SIGNAL ROUTE

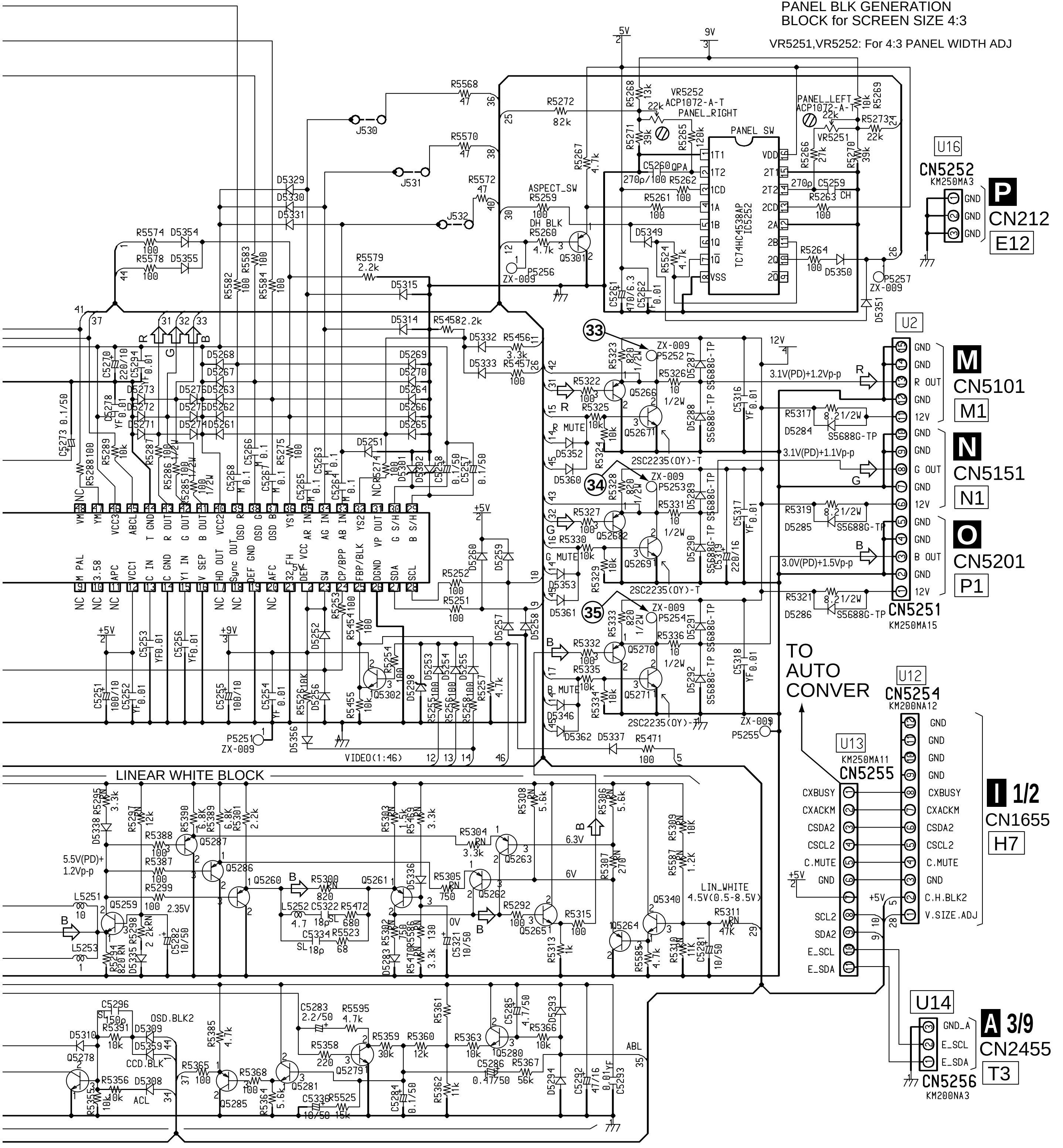
B-Y : B-Y SIGNAL ROUTE

R, G or B : R, G or B SIGNAL ROUTE

E 2/2 VIDEO ASSY (AWV1916)
• VIDEO BLOCK

IC5252.Q5301 :
PANEL BLK GENERATION
BLOCK for SCREEN SIZE 4:3

VR5251,VR5252: For 4:3 PANEL WIDTH ADJ


A
B
C
D
5V
9V
R5568 47
R5272 82k
R5268 13k
VR5252 ACP1072-A-T PANEL_RIGHT
PANEL_LEFT ACP1072-A-T
VR5251
R5269 10k
R5273 22k
J530
J531
J532
R5570 47
R5572 47
ASPECT_SW
DH BLK
R5259 100
R5260 4.7k
Q5301
P5256 ZX-009
PANEL SW
TC74HC4538AP IC5252
1T1 1T2 1CD 1A 1B 1Q 1Q VSS
VDD 2T1 2T2 2CD 2A 2B 2Q 2Q
C5260 QPA
R5262
R5261 100
R5263 100
C5259 CH
R5264 100
D5349
D5350
D5351
P5257 ZX-009
U16
CN5252 KM250MA3
GND GND GND
P CN212 E12
D5329 D5330 D5331
R5574 100 D5354
R5578 100 D5355
R5582 100 R5583 100 R5584 100
R5579 2.2k
D5315
D5314
R5458 2.2k
D5332 R5456 3.3k
D5333 R5457 100
33
ZX-009 P5252
R5322 100
R5323 820 1/2W
R5326 10 1/2W
Q5266
Q5267
R5325 R MUTE 10k
R5324 10k
S5688G-TP
C5316 0.01
2SC2235(OY)-T
12V
U2
3.1V(PD)+1.2Vp-p
GND GND R OUT GND 12V
M CN5101 M1
R5317 8.2 1/2W
D5284 S5688G-TP
N CN5151 N1
GND GND G OUT GND 12V
3.1V(PD)+1.1Vp-p
D5352 D5360
34
ZX-009 P5253
R5327 100
R5328 820 1/2W
R5331 10 1/2W
G MUTE R5330 10k
Q5268 Q5269
R5329 10k
C5317 0.01
C5319 220/16
R5319 8.2 1/2W
D5285 S5688G-TP
GND GND B OUT GND 12V
O CN5201 P1
3.0V(PD)+1.5Vp-p
D5353 D5361
35
ZX-009 P5254
R5332 100
R5333 820 1/2W
R5336 10 1/2W
Q5270 Q5271
B MUTE R5335
R5334 10k
C5318 0.01
D5346 D5362 D5337
R5471 100
ZX-009 P5255
R5321 8.2 1/2W
D5286 S5688G-TP
CN5251 KM250MA15
TO AUTO CONVER
U12
CN5254 KM200NA12
GND GND GND GND CXBUSY CXACKM CSDA2 CSCL2 C.MUTE GND C.H.BLK2 V.SIZE.ADJ
I 1/2 CN1655 H7
U13
KM250MA11 CN5255
CXBUSY CXACKM CSDA2 CSCL2 C.MUTE GND SCL2 SDA2 E_SCL E_SDA
+5V
U14
GND_A E_SCL E_SDA
A 3/9 CN2455 T3
CN5256 KM200NA3
YM YM VCC3 ABCL T GND R OUT G OUT B OUT VCC2 OSD R OSD G OSD B YS1 AR IN AG IN AB IN YS2 VP OUT G S/H B S/H
M PAL 3.58 APC VCC1 C IN C GND Y1 IN V SEP HD OUT Sync OUT DEF GND OSD GND AFC 32_FH DEF VCC SW CP/BPP FBP/BLK DGND SDA SCL
NC NC NC NC NC NC
C5270 220/10
C5294 0.01
C5273 0.1/50
R5288 100
R5289 10k
R5287
R5286 100 1/2W
R5285 100 1/2W
D5268 D5267 D5273 D5272 D5271 D5275 D5263 D5262 D5274 D5261
D5269 D5270 D5264 D5266 D5265
D5251
R5274 100
D5301 D5302
C5258 0.1/50
C5257 0.1/50
+5V +9V
C5253 0.01
C5256 0.01
C5251 100/10
C5252 0.01
C5255 100/10
C5254 0.01
R5252 100
R5251 100
D5260 D5259
D5257 D5258
D5252
R5253
R5454 100
Q5302
R5254 100
D5253 D5254 D5255
R5257 4.7k
R5256 100
R5258 100
R5255 100
D5298
R5455 10k
R5526 10k
D5256
D5356
P5251 ZX-009
VIDEO(1:46)
LINEAR WHITE BLOCK
R5295 3.3k
D5338
R5297 12k
R5390 6.8k
R5389 6.8k
R5301 2.2k
R5388 100
Q5287
R5387 100
Q5286
5.5V(PD)+1.2Vp-p
R5299 100
2.35V
Q5259
L5251 10
L5253 1
R5298 2.2k
R5294 820
D5335
C5282 10/50
Q5260
R5300 820
L5252 4.7
C5322 18p
R5472 680
C5334 18p
R5523 68
Q5261
D5336
R5303 1k
R5304 3.3k
Q5263
R5305 750
Q5262
0V
C5321 10/50
R5302 150
R5470 130
R5292 100
Q5265
R5308 5.6k
R5306 5.6k
6.3V
6V
R5307 270
R5313 1k
R5315 100
Q5264
Q5340
R5309 10k
R5587 1.2k
R5311 47k
LIN_WHITE 4.5V(0.5-8.5V)
R5585 4.7k
R5310 10k
C5281 10/50
C5296 150p
OSD.BLK2
D5310
R5391 10k
D5309
D5359
CCD.BLK
Q5278
R5356 10k
D5308
ACL
R5385 4.7k
R5365 100
Q5285
R5368 100
Q5281
R5364 5.6k
C5336 10/50
R5525 15k
C5283 2.2/50
R5595 4.7k
R5358 220
Q5279
R5359 30k
R5360 12k
C5284 0.1/50
R5361
R5362 11k
R5363 10k
Q5280
C5285 4.7/50
D5293
R5366 10k
C5286 0.47/50
R5367 56k
D5294
C5292 47/16
C5233 0.01
ABL

- Resistor indicated in ohm,1/4W±5% tolerance unless otherwise noted.k:k ohm,M:M ohm
- Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted.p:pF indication without voltage is 50V except Electrolytic capacitor.

2SC1740S(RS)-T MTZJ11-TP

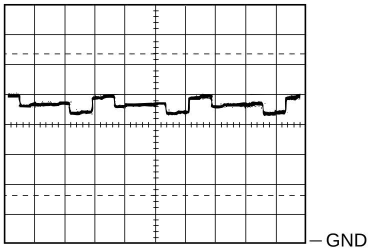
2SA933S(RS)-T 1SS133-TP

This sheet name is 11ku-video3

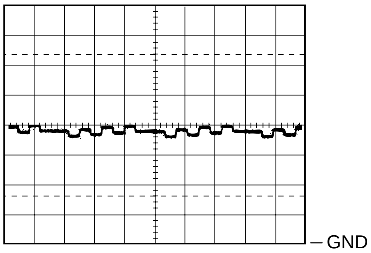
E 2/2 VIDEO ASSY (2/2)

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

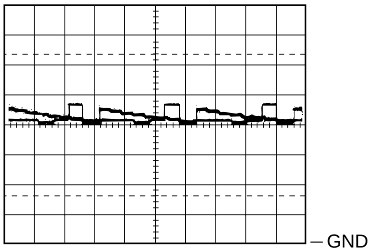
㉗ **Foot of R5369 (Sharpness output R-Y)**
V: 1V/div. H: 10µsec/div.



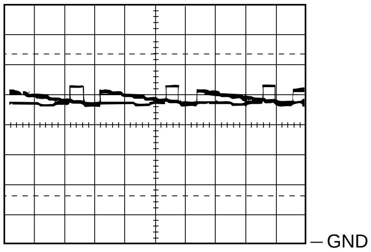
㉘ **Foot of R5378 (Sharpness output B-Y)**
V: 1V/div. H: 10µsec/div.



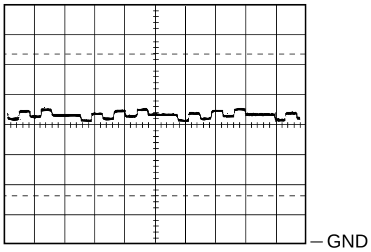
㉙ **Foot of R5377 (Sharpness output Y)**
V: 1V/div. H: 10µsec/div.



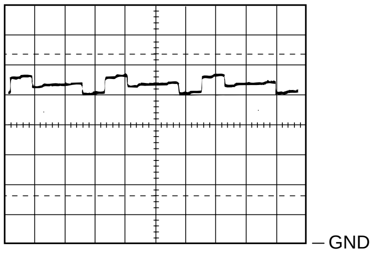
㉚ **Q5333 Emitter (Y input)**
V: 1V/div. H: 10µsec/div.



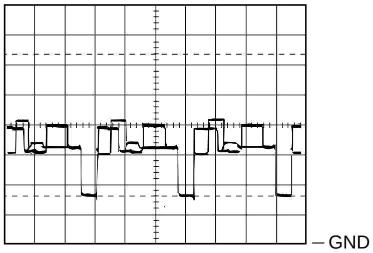
㉛ **Q5255 Emitter (B-Y input)**
V: 1V/div. H: 10µsec/div.



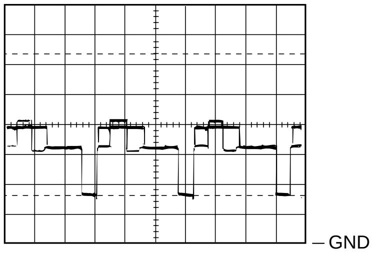
㉜ **Q5254 Emitter (R-Y input)**
V: 1V/div. H: 10µsec/div.



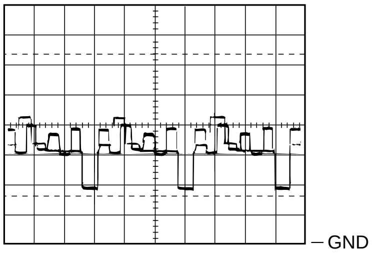
㉝ **P5252 (R OUT)**
V: 1V/div. H: 10µsec/div.



㉞ **P5253 (G OUT)**
V: 1V/div. H: 10µsec/div.



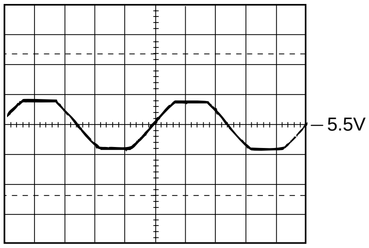
㉟ **P5254 (B OUT)**
V: 1V/div. H: 10µsec/div.



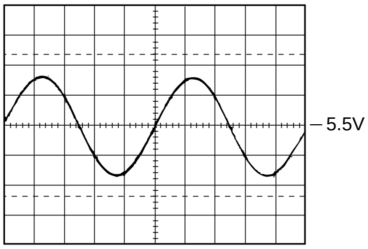
G AUDIO ASSY

Input signal
Video signal : EIA full color-bar , Picture quality : Standard
f = 1kHz , Vol. : MAX (Unless otherwise noted)   Vin = 0.4rms
Range :DC range (Unless otherwise noted)

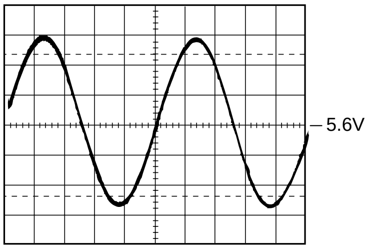
㊱-1 **CN1201-pin 11**
V: 5V/div. H: 0.2msec/div.



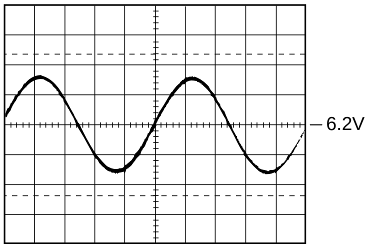
㊱-2 **CN1201-pin 11**
V: 2V/div. H: 0.2msec/div.
- Vol : 40



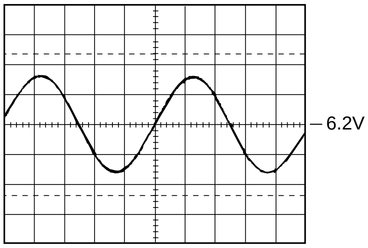
㊲ **CN1201-pin 7**
V: 0.2V/div. H: 0.2msec/div.



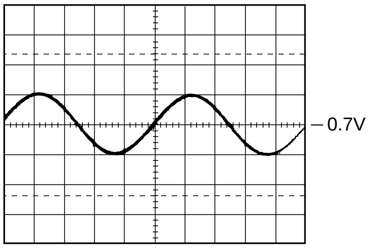
㊳ **IC1201-pin 26**
V: 0.2V/div. H: 0.2msec/div.



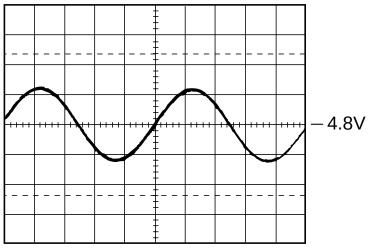
㊴ **IC1201-pin 14, 17**
V: 0.2V/div. H: 0.2msec/div.



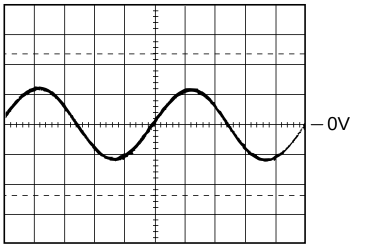
㊵ **C1229 + (plus) side**
V: 0.2V/div. H: 0.2msec/div.



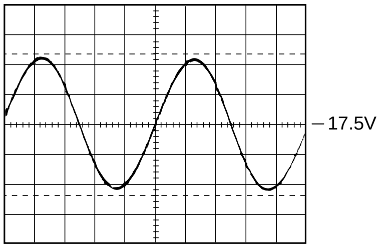
㊶ **Q1201 Base**
V: 0.2V/div. H: 0.2msec/div.



㊷ **C1241 – (minus) side**
V: 0.2V/div. H: 0.2msec/div.



㊸ **CN1202-pin 7**
V: 5V/div. H: 0.2msec/div.



IC1201 (UPC1853CT-01)

Pin No.	Voltage(V)	Pin No.	Voltage(V)
1	0	16	6.2
2	6.2	17	6.2
3	6.2	18	6.2
4	6.2	19	4.8
5	6.2	20	-
6	6.2	21	-
7	6.2	22	5.1
8	6.2	23	0
9	6.2	24	6.2
10	6.2	25	6.2
11	6.2	26	6.2
12	6.2	27	6.2
13	6.2	28	6.2
14	6.2	29	6.2
15	12.4	30	6.2

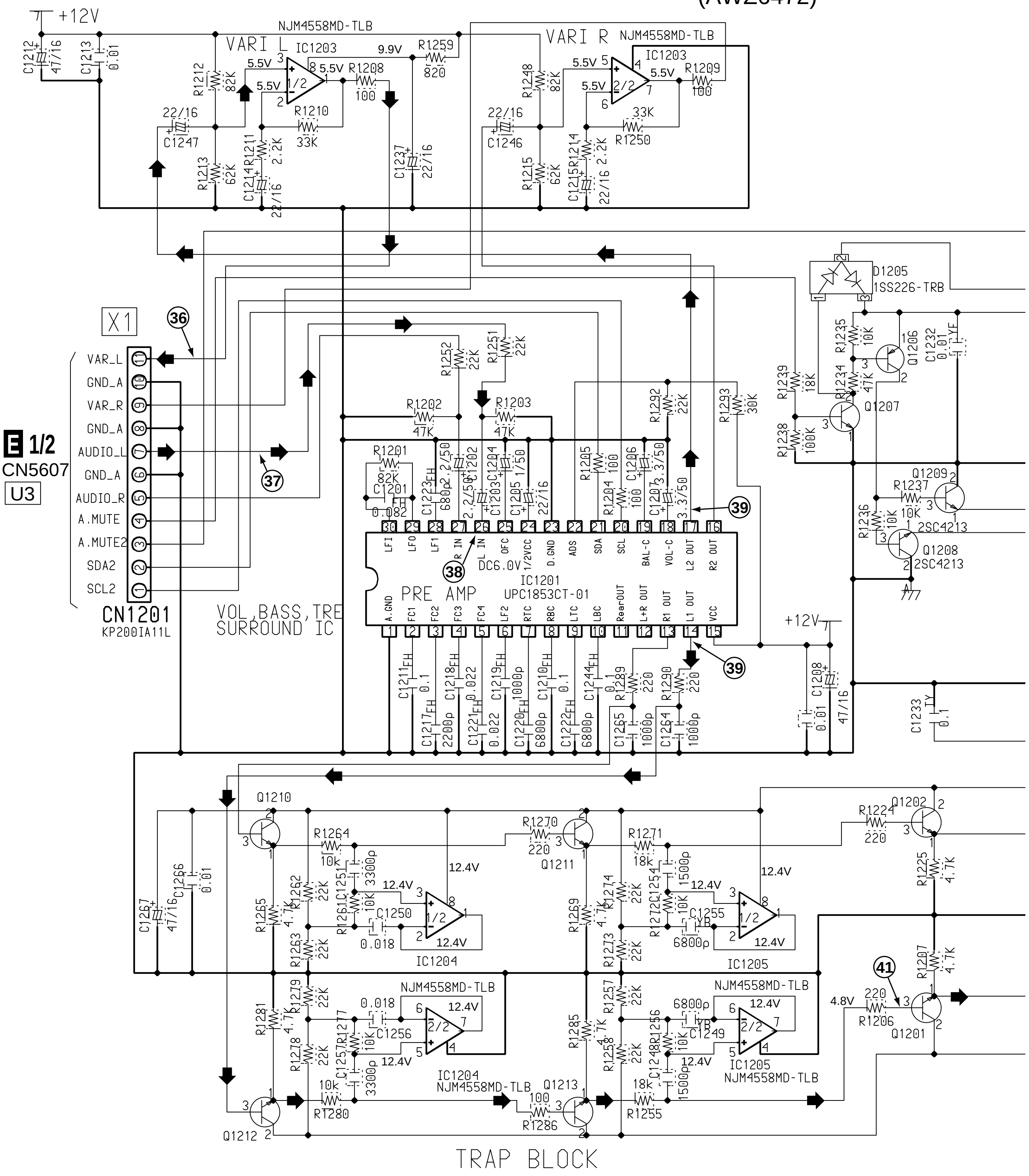
IC1202 (LA4280-P)

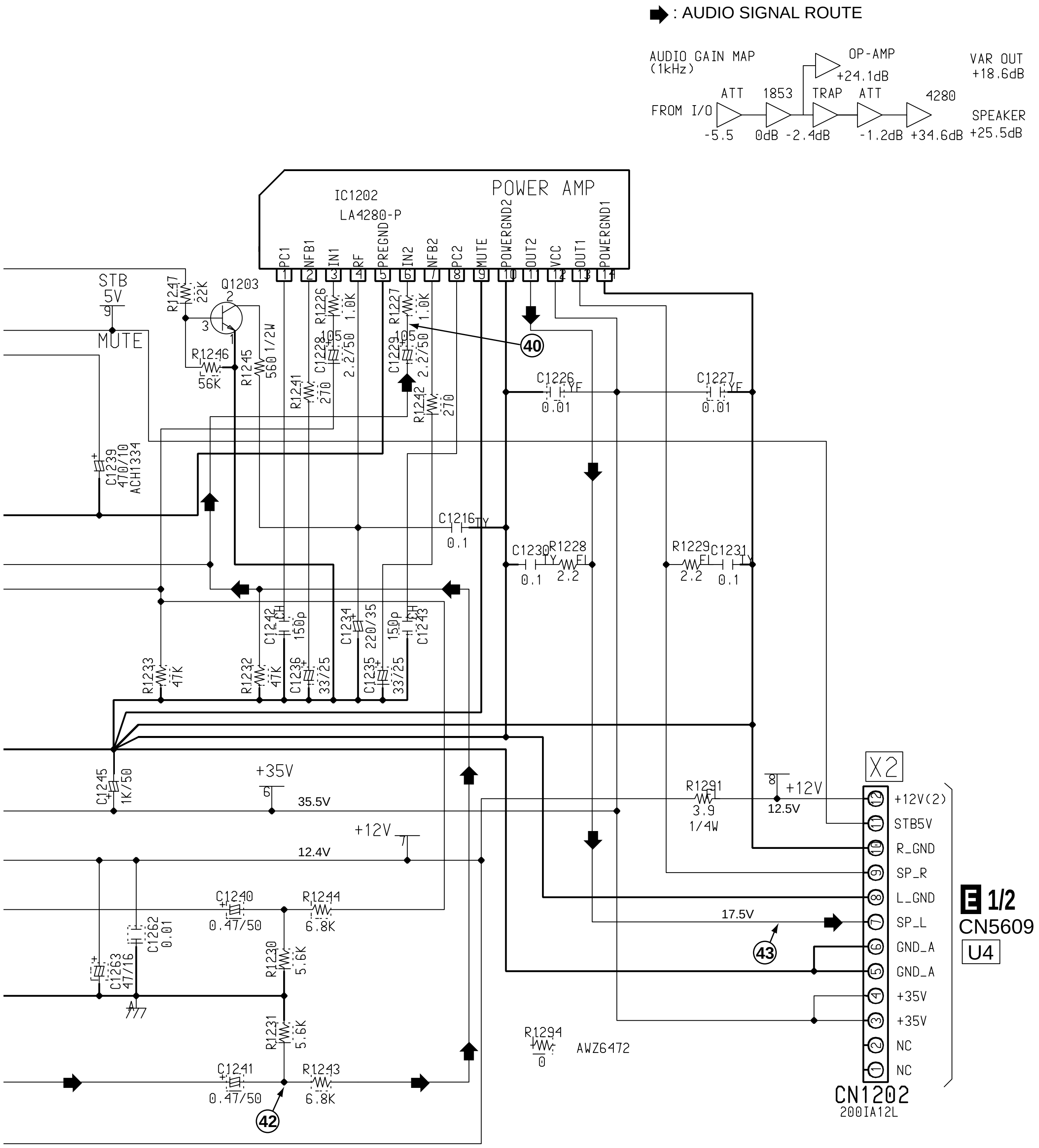
Pin No.	Voltage (V)
1	0.8
2	1.1
3	0.7
4	17.5
5	0
6	0.7
7	1.1
8	0.8
9	0
10	0
11	17.5
12	35.5
13	17.5
14	0

3.16 AUDIO ASSY

	SP MUTE ON	SP MUTE OFF
A.MUTE	HIGH	LOW

G AUDIO ASSY
(AWZ6472)


+12V
C1212 47/16
C1213 0.01
NJM4558MD-TLB
VARI L
IC1203
9.9V
R1259 820
5.5V
1/2
R1208 100
R1212 82K
R1210 33K
22/16 C1247
R1211 2.2K
R1213 62K
C1214 22/16
C1237 22/16
VARI R
NJM4558MD-TLB
IC1203
2/2
R1209 100
R1248 82K
33K R1250
22/16 C1246
R1214 2.2K
R1215 62K
C1215 22/16
D1205 1SS226-TRB
R1235 10K
Q1206
C1232 0.01 YF
R1234 47K
R1239 18K
Q1207
R1238 100K
Q1209
R1237 10K
R1236 10K
2SC4213
Q1208 2SC4213
X1
36
VAR_L
GND_A
VAR_R
GND_A
AUDIO_L
GND_A
AUDIO_R
A.MUTE
A.MUTE2
SDA2
SCL2
E 1/2
CN5607
U3
37
CN1201
KP200IA11L
VOL,BASS,TRE
SURROUND IC
R1252 22K
R1251 22K
R1202 47K
R1203 47K
R1292 22K
R1293 30K
R1201 82K
C1201 0.082
C1223 680p
C1202 2.2/50
C1203 2.2/50
C1204 1/50
C1205 22/16
R1205 100
R1204 100
C1206 3.3/50
C1207 3.3/50
39
LFI LFO LF1 R IN L IN OFC 1/2VCC D.GND ADS SDA SCL BAL-C VOL-C L2 OUT R2 OUT
38
DC6.0V
IC1201
PRE AMP
UPC1853CT-01
A.GND FC1 FC2 FC3 FC4 LF2 RTC RBC LTC LBC RearOUT L+R OUT R1 OUT L1 OUT VCC
+12V
39
C1211 0.1
C1218 0.022
C1219 1000p
C1210 0.1
C1244 0.1
R1289 220
R1290 220
C1217 2200p
C1221 0.022
C1220 6800p
C1222 6800p
C1265 1000p
C1264 1000p
C1208 47/16
0.01
C1233 0.1
Q1210
R1264 10k
C1251 3300p
12.4V
R1262 22K
R1261 10K
C1250 0.018
1/2
IC1204
R1265 4.7K
R1263 22K
C1266 0.01
C1267 47/16
R1270 220
Q1211
R1271 18K
C1254 1500p
R1274 22K
R1272 10K
C1255 6800p
IC1205
R1269 4.7K
R1273 22K
Q1202
R1224 220
R1225 4.7K
R1207 4.7K
41
4.8V
R1206 220
Q1201
NJM4558MD-TLB
R1279 22K
C1256 0.018
R1277 10K
C1257 3300p
2/2
R1281 4.7K
R1278 22K
10k R1280
Q1212
IC1204 NJM4558MD-TLB
100 R1286
Q1213
R1257 22K
6800p C1249
R1256 10K
C1248 1500p
R1285 4.7K
R1258 22K
18K R1255
IC1205 NJM4558MD-TLB
TRAP BLOCK


: AUDIO SIGNAL ROUTE
AUDIO GAIN MAP (1kHz)
FROM I/O
ATT
1853
TRAP
ATT
4280
OP-AMP
+24.1dB
VAR OUT +18.6dB
SPEAKER +25.5dB
-5.5
0dB
-2.4dB
-1.2dB
+34.6dB
IC1202
LA4280-P
POWER AMP
1 PC1
2 NFB1
3 IN1
4 RF
5 PREGND
6 IN2
7 NFB2
8 PC2
9 MUTE
10 POWERGND2
11 OUT2
12 VCC
13 OUT1
14 POWERGND1
STB 5V
9
MUTE
R1247 22K
Q1203
R1246 56K
R1245 560 1/2W
R1226 1.0K
R1227 1.0K
C1228 105 2.2/50
C1229 105 2.2/50
R1241 270
R1242 270
C1239 470/10 ACH1334
40
C1226 YF 0.01
C1227 YF 0.01
C1216 TY 0.1
C1230 TY 0.1
R1228 FL 2.2
R1229 FL 2.2
C1231 TY 0.1
C1242 CH 150p
C1234 220/35
C1243 CH 150p
R1233 47K
R1232 47K
C1236 33/25
C1235 33/25
C1245 1K/50
+35V
6
35.5V
+12V
7
12.4V
R1291 3.9 1/4W
8 +12V
12.5V
C1240 0.47/50
R1244 6.8K
C1262 0.01
C1263 47/16
R1230 5.6K
R1231 5.6K
17.5V
43
R1294 0
AWZ6472
C1241 0.47/50
R1243 6.8K
42
X2
12 +12V(2)
11 STB5V
10 R_GND
9 SP_R
8 L_GND
7 SP_L
6 GND_A
5 GND_A
4 +35V
3 +35V
2 NC
1 NC
CN1202
200IA12L
E 1/2
CN5609
U4

Notes

1.RESISTORS

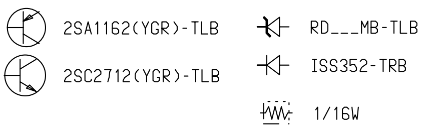
Indicated in Ω

tolerance unless otherwise noted k Ω

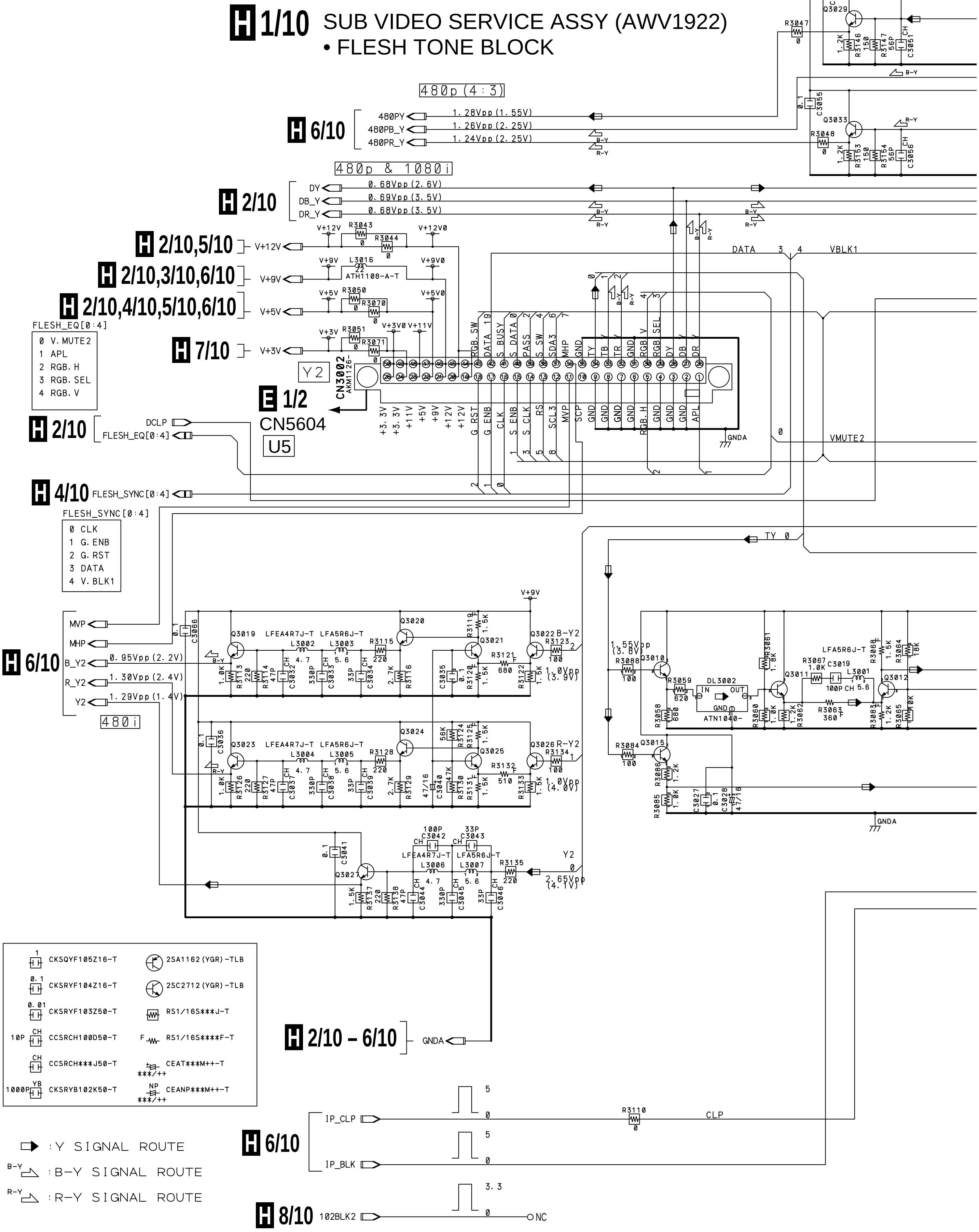
2.CAPASITORS

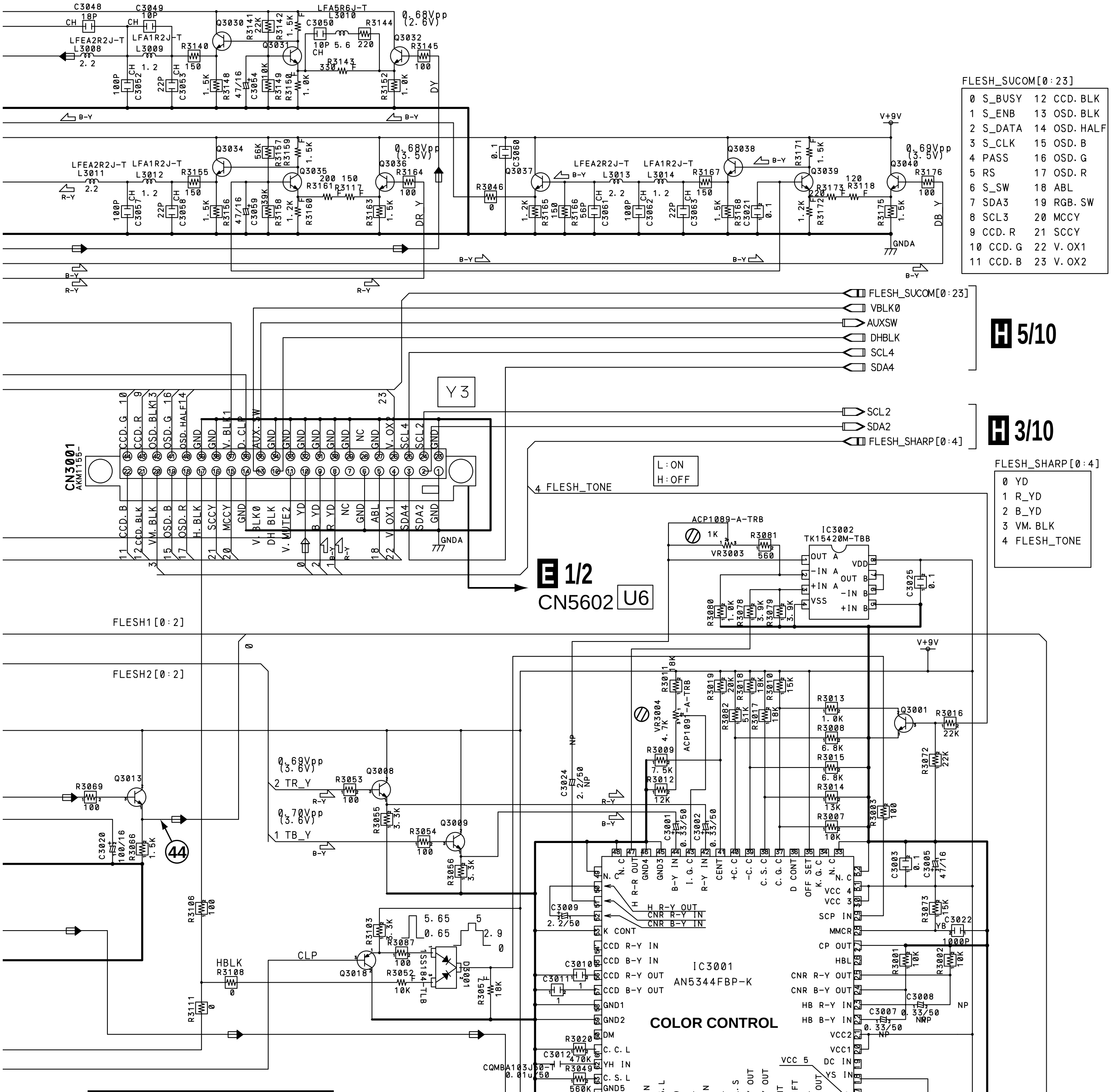
Indicated in capacity(uF)/Voltage unless otherwise noted p pF

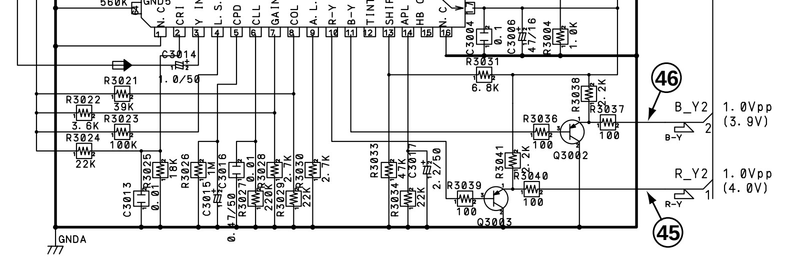
Indication without voltage is 50V except electrolytic capacitor.


2SA1162(YGR)-TLB
2SC2712(YGR)-TLB
RD__MB-TLB
ISS352-TRB
1/16W

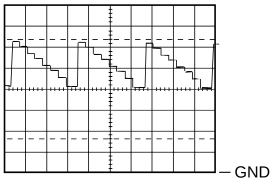
3.17 SUB VIDEO SERVICE ASSY (1/10)


H 1/10 SUB VIDEO SERVICE ASSY (AWV1922)
• FLESH TONE BLOCK
480p (4:3)
H 6/10
480PY
480PB_Y
480PR_Y
1.28Vpp (1.55V)
1.26Vpp (2.25V)
1.24Vpp (2.25V)
480p & 1080i
H 2/10
DY
DB_Y
DR_Y
0.68Vpp (2.6V)
0.69Vpp (3.5V)
0.68Vpp (3.5V)
H 2/10,5/10 V+12V
H 2/10,3/10,6/10 V+9V
H 2/10,4/10,5/10,6/10 V+5V
H 7/10 V+3V
R3043
R3044
L3016 22 ATH1108-A-T
R3050
R3070
R3051
R3071
V+12V0
V+9V0
V+5V0
V+3V0
V+11V
FLESH_EQ[0:4]
0 V.MUTE2
1 APL
2 RGB.H
3 RGB.SEL
4 RGB.V
CN3002 AKM1126-
Y2
E 1/2
CN5604
U5
H 2/10 DCLP
FLESH_EQ[0:4]
H 4/10 FLESH_SYNC[0:4]
FLESH_SYNC[0:4]
0 CLK
1 G.ENB
2 G.RST
3 DATA
4 V.BLK1
DATA
VBLK1
VMUTE2
GNDA
TY 0
R3047
Q3029
R3146
R3147
C3047
C3051
Q3033
R3048
R3153
R3154
C3055
C3056
B-Y
R-Y
V+9V
H 6/10
MVP
MHP
B_Y2
R_Y2
Y2
0.95Vpp (2.2V)
1.30Vpp (2.4V)
1.29Vpp (1.4V)
480i
C3066
Q3019
LFEA4R7J-T
LFA5R6J-T
L3002
L3003
Q3020
R3115
R3119
Q3021
Q3022
B-Y2
R3123
R3121
680
1.0Vpp (3.9V)
C3036
Q3023
L3004
L3005
Q3024
R3128
Q3025
Q3026
R-Y2
R3134
R3132
510
1.0Vpp (4.0V)
C3041
C3042
C3043
Q3027
L3006
L3007
R3135
Y2
2.65Vpp (4.1V)
1.55Vpp (3.8V)
R3086
Q3010
R3059
DL3002
IN
OUT
GND
ATN1040-
R3061
Q3011
R3067
C3019
L3001
Q3012
R3068
R3064
R3058
R3060
R3062
R3063
R3083
R3065
R3084
Q3015
R3080
R3085
C3027
C3028
GNDA
1 CKSQYF105Z16-T
0.1 CKSRYF104Z16-T
0.01 CKSRYF103Z50-T
10P CH CCSRCH100D50-T
CH CCSRCH***J50-T
1000P YB CKSRYB102K50-T
2SA1162 (YGR)-TLB
2SC2712 (YGR)-TLB
RS1/16S***J-T
F RS1/16S****F-T
CEAT***M++-T ***/++
NP CEANP***M++-T ***/++
H 2/10 – 6/10 GNDA
:Y SIGNAL ROUTE
B-Y :B-Y SIGNAL ROUTE
R-Y :R-Y SIGNAL ROUTE
H 6/10
IP_CLP
IP_BLK
5
0
R3110
CLP
H 8/10 102BLK2
3.3
NC

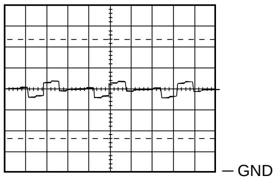

FLESH_SUCOM[0:23]
0 S_BUSY 12 CCD.BLK
1 S_ENB 13 OSD.BLK
2 S_DATA 14 OSD.HALF
3 S_CLK 15 OSD.B
4 PASS 16 OSD.G
5 RS 17 OSD.R
6 S_SW 18 ABL
7 SDA3 19 RGB.SW
8 SCL3 20 MCCY
9 CCD.R 21 SCCY
10 CCD.G 22 V.OX1
11 CCD.B 23 V.OX2
FLESH_SUCOM[0:23]
VBLK0
AUXSW
DHBLK
SCL4
SDA4
H 5/10
SCL2
SDA2
FLESH_SHARP[0:4]
H 3/10
FLESH_SHARP[0:4]
0 YD
1 R_YD
2 B_YD
3 VM.BLK
4 FLESH_TONE
CN3001 AKM1155-
Y3
E 1/2
CN5602 U6
L:ON
H:OFF
IC3002 TK15420M-TBB
VR3003
FLESH1[0:2]
FLESH2[0:2]
Q3013
Q3008
Q3009
Q3018
Q3001
HBLK
CLP
0.68Vpp (2.6V)
0.69Vpp (3.5V)
0.69Vpp (3.6V)
0.70Vpp (3.6V)
V+9V
GNDA


IC3001
AN5344FBP-K
COLOR CONTROL
Q3002
Q3003
B_Y2 1.0Vpp (3.9V)
R_Y2 1.0Vpp (4.0V)
GNDA

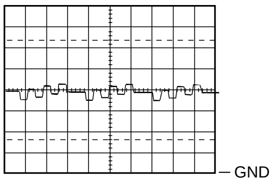
㊹ **Q3013 Emitter (Y2)**
V: 1V/div. H: 20µsec/div.



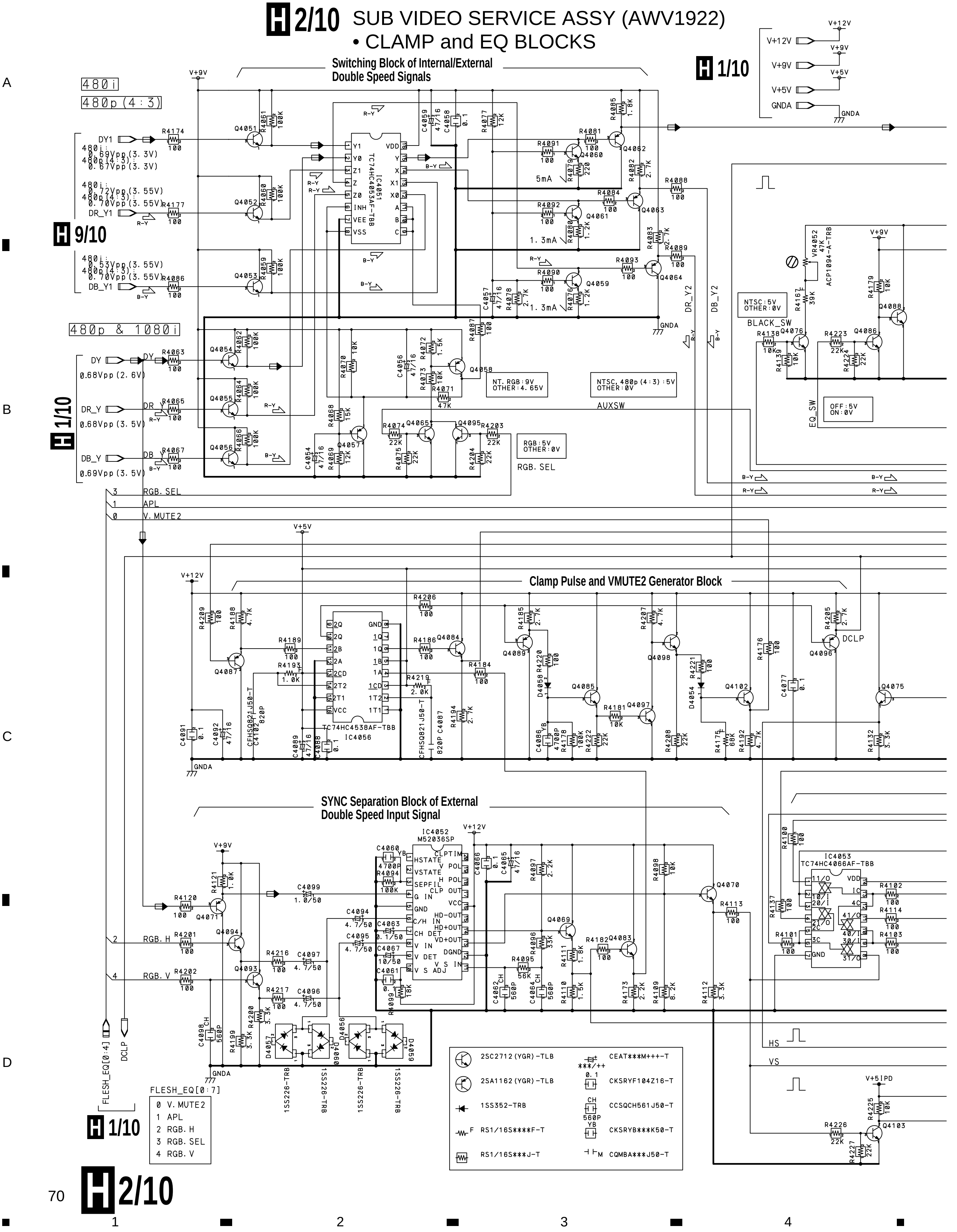
㊺ **Foot of R3040 (R-Y2)**
V: 1V/div. H: 20µsec/div.

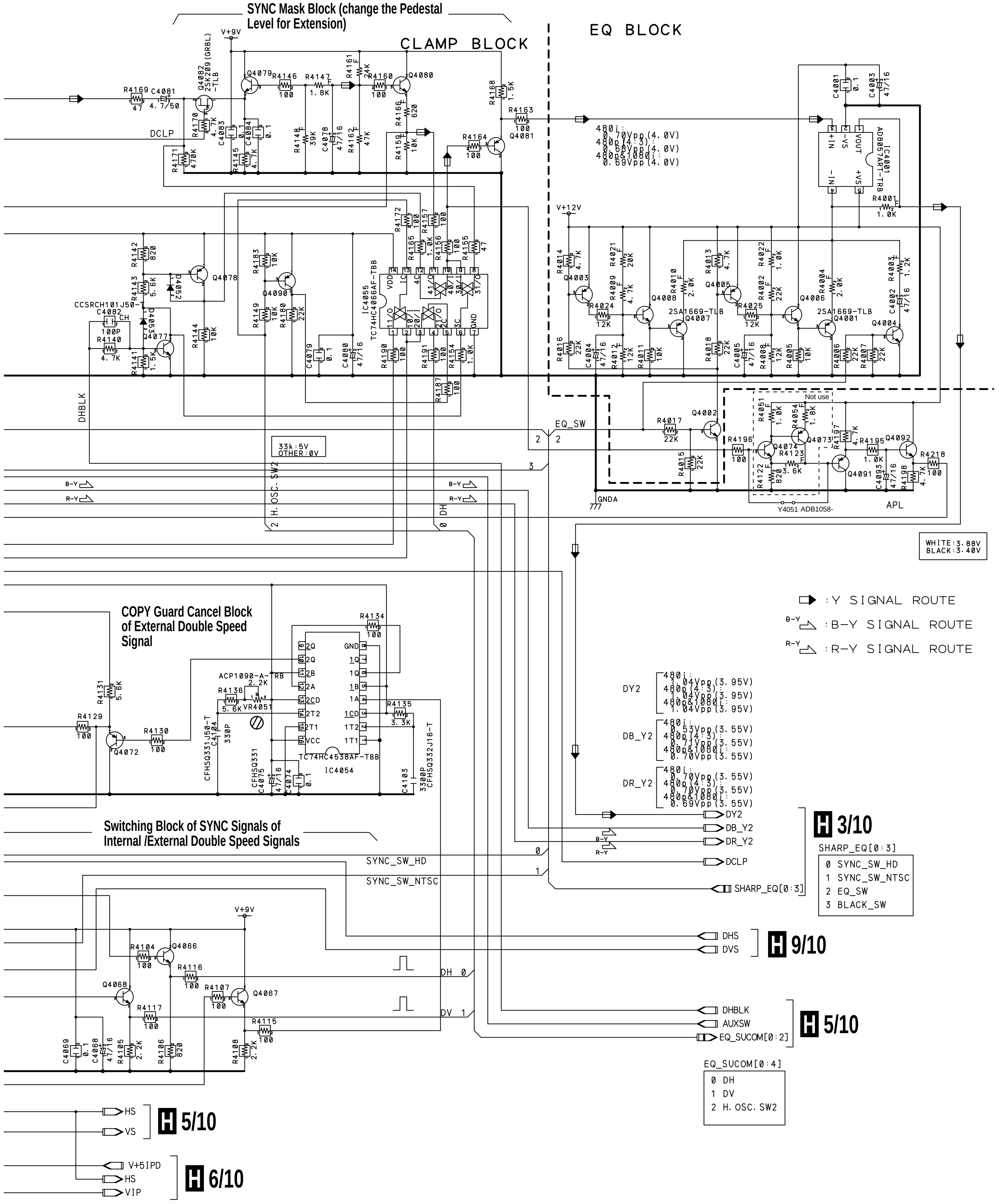


㊻ **Foot of R3037 (B-Y2)**
V: 1V/div. H: 20µsec/div.



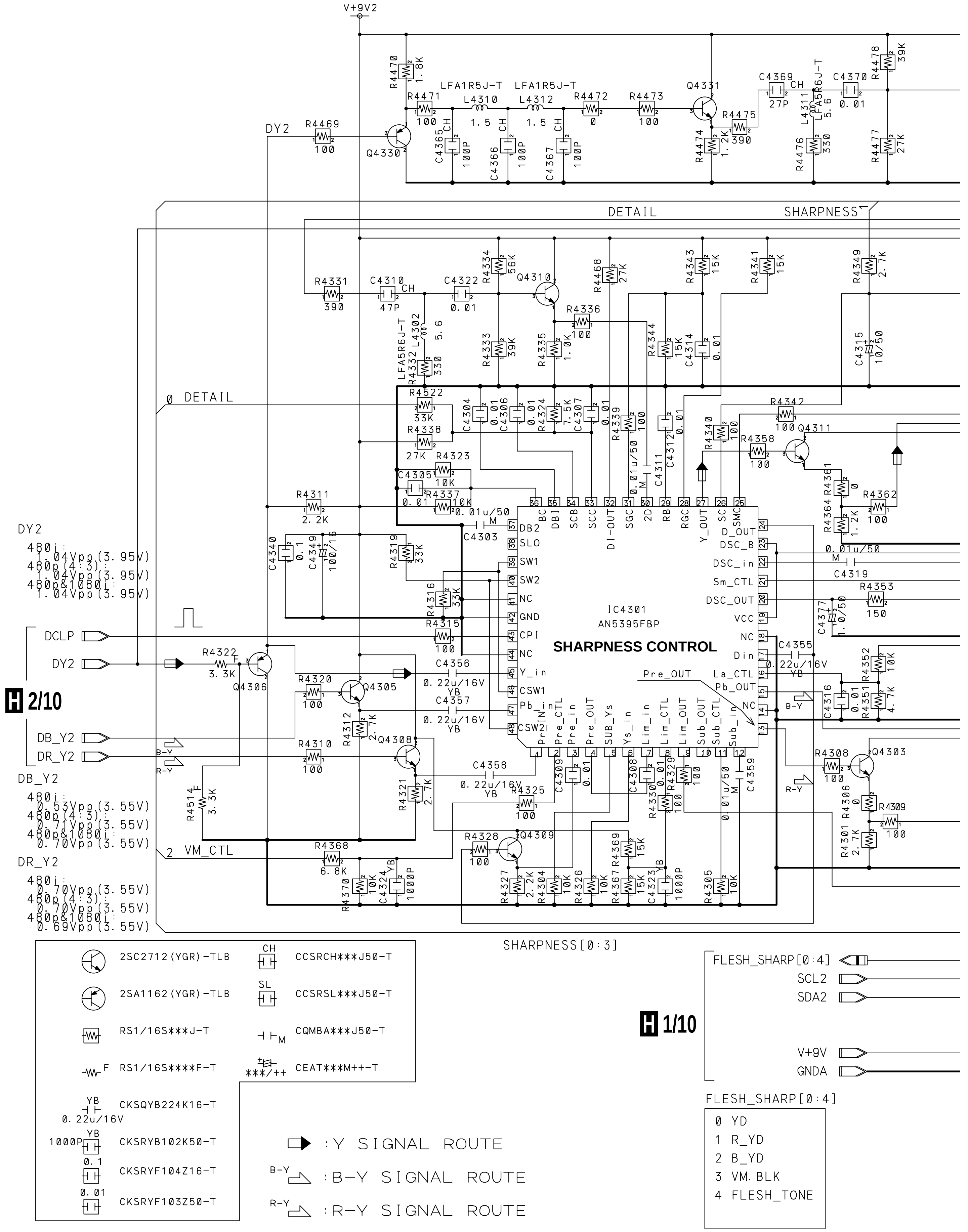
3.18 SUB VIDEO SERVICE ASSY (2/10)


H 2/10
SUB VIDEO SERVICE ASSY (AWV1922)
• CLAMP and EQ BLOCKS
Switching Block of Internal/External Double Speed Signals
480i
480p (4:3)
DY1
480i: 0.69Vpp(3.3V)
480p(4:3): 0.67Vpp(3.3V)
DR_Y1
480i: 0.72Vpp(3.55V)
480p(4:3): 0.70Vpp(3.55V)
DB_Y1
480i: 0.53Vpp(3.55V)
480p(4:3): 0.70Vpp(3.55V)
H 9/10
480p & 1080i
DY
0.68Vpp(2.6V)
DR_Y
0.68Vpp(3.5V)
DB_Y
0.69Vpp(3.5V)
H 1/10
IC4051
TC74HC4053AF-TBB
5mA
1.3mA
1.3mA
GNDA
DR_Y2
DB_Y2
NT. RGB:9V
OTHER:4.65V
NTSC, 480p(4:3):5V
OTHER:0V
AUXSW
RGB:5V
OTHER:0V
RGB. SEL
APL
V. MUTE2
V+9V
V+12V
V+5V
GNDA
H 1/10
NTSC:5V
OTHER:0V
BLACK_SW
VR4052
47K
ACP1094-A-TRB
EQ_SW
OFF:5V
ON:0V
Clamp Pulse and VMUTE2 Generator Block
IC4056
TC74HC4538AF-TBB
DCLP
SYNC Separation Block of External Double Speed Input Signal
IC4052
M52036SP
HSTATE
VSTATE
SEPFIL
G IN
GND
C/H IN
CH DET
V IN
V DET
V S ADJ
CLPTIM
V POL
H POL
CLP OUT
VCC
HD-OUT
HD+OUT
VD+OUT
DGND
V S IN
IC4053
TC74HC4066AF-TBB
HS
VS
V+5IPD
RGB. H
RGB. V
FLESH_EQ[0:4]
DCLP
FLESH_EQ[0:7]
0 V. MUTE2
1 APL
2 RGB. H
3 RGB. SEL
4 RGB. V
H 1/10
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
1SS352-TRB
RS1/16S※※※※F-T
RS1/16S※※※J-T
CEAT※※※M+++-T
CKSRYF104Z16-T
CCSQCH561J50-T
CKSRYB※※※K50-T
CQMBA※※※J50-T
1SS226-TRB
D4057
D4060
D4056
D4059
H 2/10


SYNC Mask Block (change the Pedestal Level for Extension)
CLAMP BLOCK
EQ BLOCK
COPY Guard Cancel Block of External Double Speed Signal
Switching Block of SYNC Signals of Internal /External Double Speed Signals
V+9V
V+12V
Q4082 2SK209(GRBL)-TLB
Q4079
Q4080
Q4081
Q4078
Q4090
Q4077
IC4055 TC74HC4066AF-TBB
IC4001 AD8057ART-TRB
Q4003
Q4008
Q4007 2SA1669-TLB
Q4005
Q4006
Q4001 2SA1669-TLB
Q4004
Q4002
Q4074
Q4073
Q4091
Q4092
Not use
Y4051 ADB1058-
APL
GNDA
EQ_SW
DCLP
DHBLK
H. OSC. SW2
DH
33k:5V OTHER:0V
WHITE:3.88V BLACK:3.40V
480i: 0.70Vpp(4.0V)
480p(4:3): 0.68Vpp(4.0V)
480p&1080i: 0.69Vpp(4.0V)
IC4054 TC74HC4538AF-TBB
ACP1090-A-RB
VR4051
Q4072
Q4066
Q4068
Q4067
DY2 480i: 1.04Vpp(3.95V) 480p(4:3): 1.04Vpp(3.95V) 480p&1080i: 1.04Vpp(3.95V)
DB_Y2 480i: 0.53Vpp(3.55V) 480p(4:3): 0.71Vpp(3.55V) 480p&1080i: 0.70Vpp(3.55V)
DR_Y2 480i: 0.70Vpp(3.55V) 480p(4:3): 0.70Vpp(3.55V) 480p&1080i: 0.69Vpp(3.55V)
:Y SIGNAL ROUTE
B-Y :B-Y SIGNAL ROUTE
R-Y :R-Y SIGNAL ROUTE
DY2
DB_Y2
DR_Y2
DCLP
SHARP_EQ[0:3]
H 3/10
SHARP_EQ[0:3]
0 SYNC_SW_HD
1 SYNC_SW_NTSC
2 EQ_SW
3 BLACK_SW
SYNC_SW_HD
SYNC_SW_NTSC
DHS
DVS
H 9/10
DH 0
DV 1
DHBLK
AUXSW
EQ_SUCOM[0:2]
H 5/10
EQ_SUCOM[0:4]
0 DH
1 DV
2 H. OSC. SW2
HS
VS
H 5/10
V+5IPD
HS
VIP
H 6/10

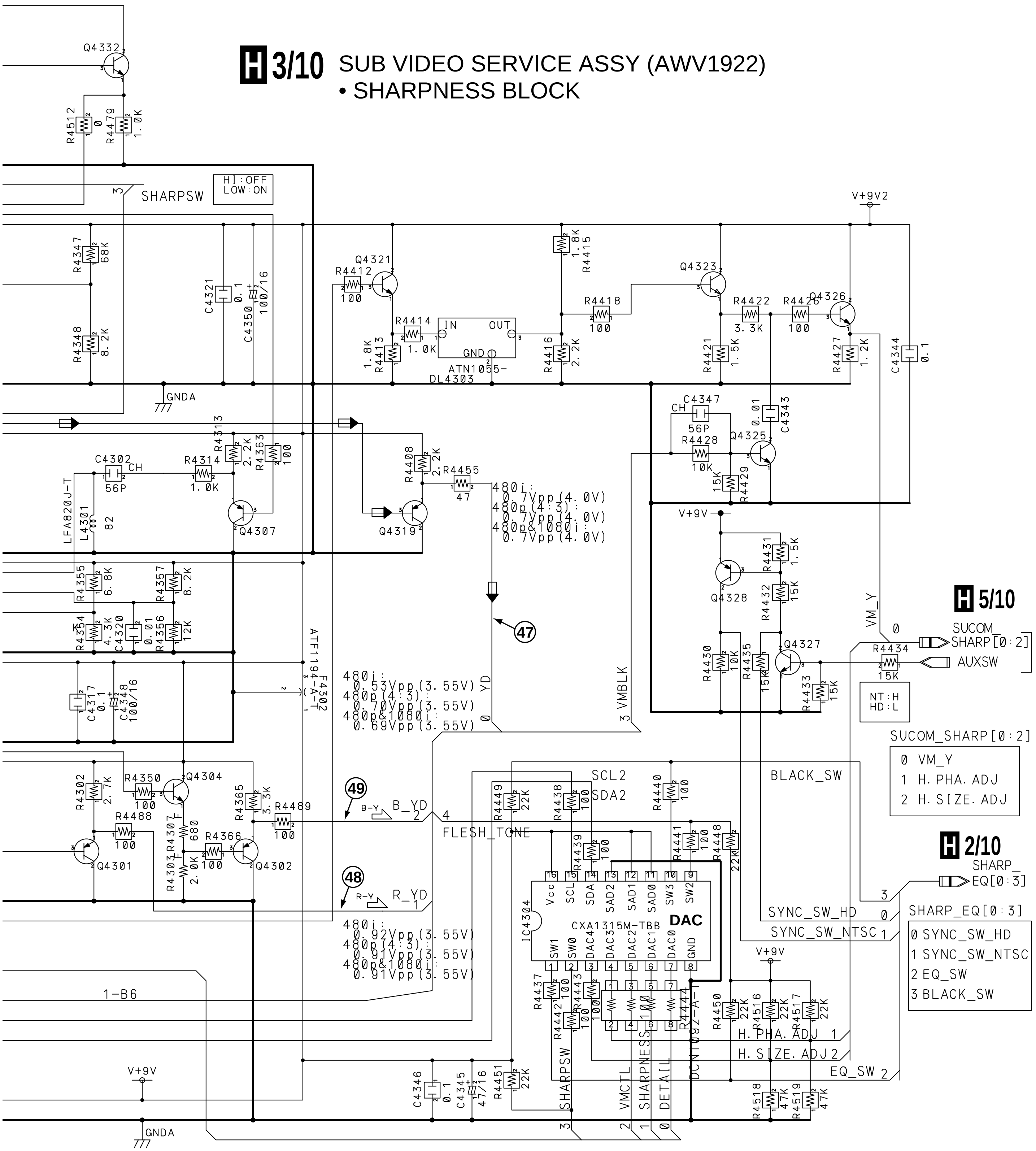
PRO-720HD, PRO-620HD, PRO-520HD

3.19 SUB VIDEO SERVICE ASSY (3/10)

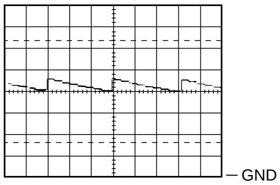


V+9V2
R4470 1.8K
R4471 100
LFA1R5J-T L4310 1.5
LFA1R5J-T L4312 1.5
R4472 0
R4473 100
Q4331
C4369 CH 27P
C4370 0.01
L4311 LFA5R6J-T 5.6
R4478 39K
R4475 390
R4474 1.2K
R4476 330
R4477 27K
DY2
R4469 100
Q4330
C4365 CH 100P
C4366 CH 100P
C4367 CH 100P
DETAIL
SHARPNESS
R4331 390
C4310 CH 47P
C4322 0.01
R4334 56K
Q4310
R4468 27K
R4343 15K
R4341 15K
R4349 2.7K
LFA5R6J-T L4302 5.6
R4332 330
R4336 100
R4333 39K
R4335 1.0K
R4344 15K
C4314 0.01
C4315 10/50
0 DETAIL
R4522 33K
R4338 27K
C4304 0.01
C4306 0.01
R4324 7.5K
C4307 0.01
R4339 100
C4311 0.01u/50 M
C4312 0.01
R4340 100
R4342 100
Q4311
R4358 100
R4323 10K
C4305 0.01
R4337 10K
R4311 2.2K
C4303 0.01u/50 M
R4361 0
R4364 1.2K
R4362 100
DY2
480i: 1.04Vpp(3.95V)
480p(4:3): 1.04Vpp(3.95V)
480p&1080i: 1.04Vpp(3.95V)
C4340 0.1
C4349 100/16
R4319 33K
R4316 33K
R4315 100
IC4301
AN5395FBP
SHARPNESS CONTROL
56 BC
55 DBI
54 SCB
53 SCC
32 DI-OUT
31 SGC
30 2D
29 RB
28 RGC
27 Y_OUT
26 SC
25 SMC
37 DB2
38 SLO
39 SW1
40 SW2
41 NC
42 GND
43 CPI
44 NC
45 Y_in
46 CSW1
47 Pb_in
48 CSW2
24 D_OUT
23 DSC_B
22 DSC_in
21 Sm_CTL
20 DSC_OUT
19 VCC
18 NC
17 Din
16 La_CTL
15 Pb_OUT
14 NC
13
1 Pr_IN
2 Pre_CTL
3 Pre_in
4 Pre_OUT
5 SUB_Ys
6 Ys_in
7 Lim_in
8 Lim_CTL
9 Lim_OUT
10 Sub_OUT
11 Sub_CTL
12 Sub_in
Pre_OUT
C4319 0.01u/50 M
R4353 150
C4377 1.0/50
C4355 0.22u/16V YB
R4352 10K
C4316 0.01
R4351 4.7K
B-Y
R-Y
DCLP
DY2
R4322 F 3.3K
Q4306
C4356 0.22u/16V YB
R4320 100
Q4305
C4357 0.22u/16V YB
H 2/10
DB_Y2
DR_Y2
R4312 2.7K
Q4308
R4310 100
C4358 0.22u/16V YB
C4309 0.01
C4308 0.01
R4329 100
C4359 0.01u/50 M
R4308 100
Q4303
R4306 0
R4309 100
R4301 2.7K
DB_Y2
480i: 0.53Vpp(3.55V)
480p(4:3): 0.71Vpp(3.55V)
480p&1080i: 0.70Vpp(3.55V)
R4514 F 3.3K
R4321 2.7K
R4325 100
R4330 100
R4328 100
Q4309
R4369 15K
2 VM_CTL
R4368 6.8K
DR_Y2
480i: 0.70Vpp(3.55V)
480p(4:3): 0.70Vpp(3.55V)
480p&1080i: 0.69Vpp(3.55V)
R4370 10K
C4324 YB 1000P
R4327 2.2K
R4304 10K
R4326 10K
R4367 15K
C4323 YB 1000P
R4305 10K
SHARPNESS[0:3]
2SC2712(YGR)-TLB
2SA1162(YGR)-TLB
RS1/16S***J-T
F RS1/16S****F-T
CH CCSRCH***J50-T
SL CCSRSL***J50-T
M CQMBA***J50-T
/++ CEATM++-T
YB 0.22u/16V CKSQYB224K16-T
1000P YB CKSRYB102K50-T
0.1 CKSRYF104Z16-T
0.01 CKSRYF103Z50-T
:Y SIGNAL ROUTE
B-Y :B-Y SIGNAL ROUTE
R-Y :R-Y SIGNAL ROUTE
FLESH_SHARP[0:4]
SCL2
SDA2
H 1/10
V+9V
GNDA
FLESH_SHARP[0:4]
0 YD
1 R_YD
2 B_YD
3 VM.BLK
4 FLESH_TONE

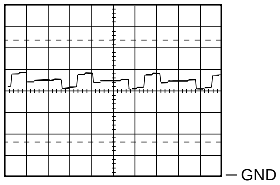
H 3/10 SUB VIDEO SERVICE ASSY (AWV1922)
• SHARPNESS BLOCK


Q4332
R4512 0
R4479 1.0K
SHARPSW
HI:OFF
LOW:ON
R4347 68K
R4348 8.2K
C4321 0.1
C4350 100/16
GNDA
Q4321
R4412 100
R4414 1.0K
R4413 1.8K
IN OUT GND
ATN1055-
DL4303
R4415 1.8K
R4418 100
R4416 2.2K
Q4323
R4422 3.3K
R4426 100
Q4326
R4421 1.5K
R4427 1.2K
C4344 0.1
V+9V2
C4347 CH 56P
R4428 10K
Q4325
R4429 15K
C4343 0.01
C4302 CH 56P
R4314 1.0K
R4313 2.2K
R4363 100
LFA820J-T
L4301 82
Q4307
R4408 2.2K
R4455 47
Q4319
480i:
0.7Vpp(4.0V)
480p(4:3):
0.7Vpp(4.0V)
480p&1080i:
0.7Vpp(4.0V)
47
R4355 6.8K
R4357 8.2K
R4354 4.3K
C4320 0.01
R4356 12K
C4317 0.1
C4318 100/16
ATF1194-A-T
F4302
480i:
0.53Vpp(3.55V)
480p(4:3):
0.70Vpp(3.55V)
480p&1080i:
0.69Vpp(3.55V)
YD
0
3 VMBLK
V+9V
R4431 1.5K
Q4328
R4432 15K
R4430 10K
R4435 15K
Q4327
R4433 15K
VM_Y
0
H 5/10
SUCOM_
SHARP[0:2]
R4434 15K
AUXSW
NT:H
HD:L
SUCOM_SHARP[0:2]
0 VM_Y
1 H.PHA.ADJ
2 H.SIZE.ADJ
R4302 2.7K
R4350 100
Q4304
R4488 100
R4307 680
Q4301
R4303 2.0K
R4366 100
Q4302
R4365 3.3K
R4489 100
49
B-Y
B_YD
2 4
48
R-Y
R_YD
1
FLESH_TONE
480i:
0.92Vpp(3.55V)
480p(4:3):
0.91Vpp(3.55V)
480p&1080i:
0.91Vpp(3.55V)
1-B6
SCL2
SDA2
R4449 22K
R4438 100
R4439 100
R4440 100
R4441 100
R4448 22K
BLACK_SW
IC4304
CXA1315M-TBB
DAC
Vcc SCL SDA SAD2 SAD1 SAD0 SW3 SW2
SW1 SW0 DAC4 DAC3 DAC2 DAC1 DAC0 GND
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
R4437 100
R4443 100
R4442 100
R4444 100
DCN1092-A-T
R4450 22K
R4516 22K
R4517 22K
V+9V
H 2/10
SHARP_
EQ[0:3]
3
SYNC_SW_HD 0
SYNC_SW_NTSC 1
SHARP_EQ[0:3]
0 SYNC_SW_HD
1 SYNC_SW_NTSC
2 EQ_SW
3 BLACK_SW
H.PHA.ADJ 1
H.SIZE.ADJ 2
EQ_SW 2
C4346 0.1
C4345 47/16
R4451 22K
R4518 47K
R4519 47K
SHARPSW
VMCTL
SHARPNESS
DETAIL
3 2 1 0
V+9V
GNDA

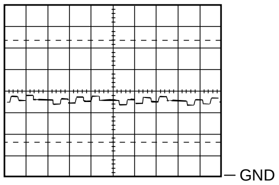
(47) Foot of R4455 (YD)
V: 1V/div. H: 10µsec/div.



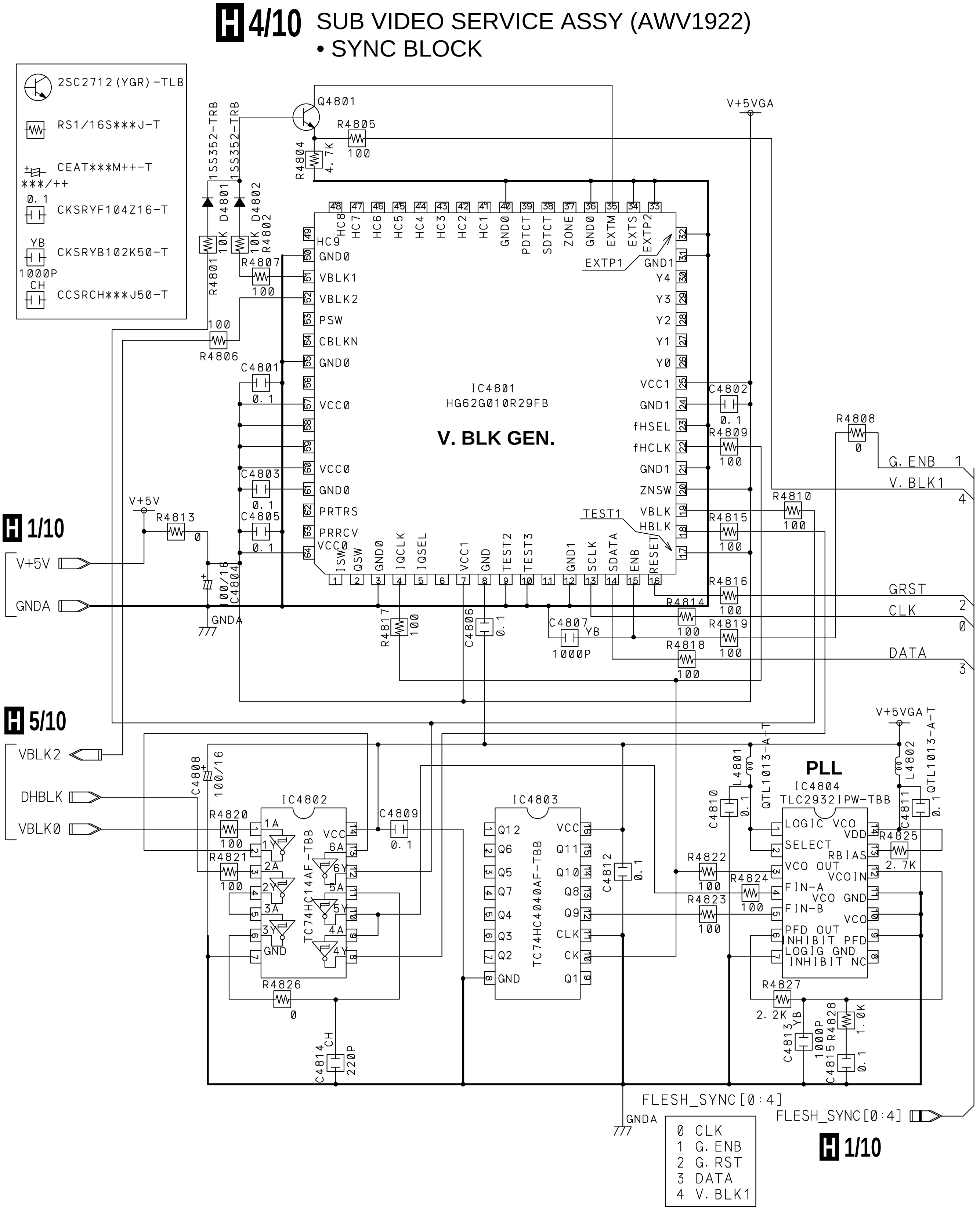
(48) Foot of R4488 (R-YD)
V: 1V/div. H: 10µsec/div.



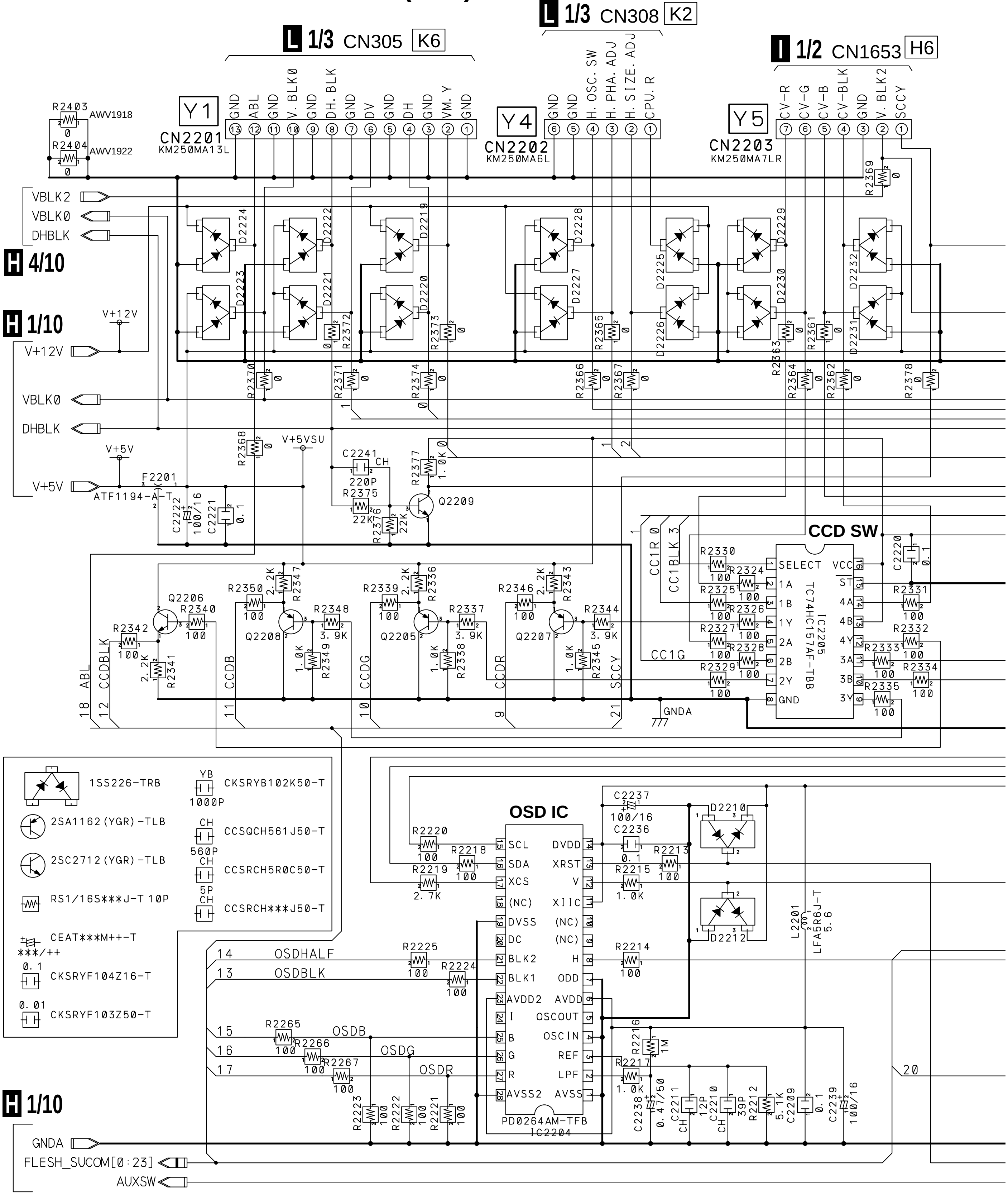
(49) Foot of R4489 (B-YD)
V: 1V/div. H: 10µsec/div.



3.20 SUB VIDEO SERVICE ASSY (4/10)


H 4/10
SUB VIDEO SERVICE ASSY (AWV1922)
• SYNC BLOCK
2SC2712(YGR)-TLB
RS1/16S***J-T
CEAT***M++-T
***/++
0.1
CKSRYF104Z16-T
YB
CKSRYB102K50-T
1000P
CH
CCSRCH***J50-T
Q4801
R4805
100
R4804
4.7K
1SS352-TRB
1SS352-TRB
D4801
D4802
R4801
10K
10K
R4802
R4807
100
R4806
100
V+5VGA
IC4801
HG62G010R29FB
V. BLK GEN.
HC9
GND0
VBLK1
VBLK2
PSW
CBLKN
GND0
VCC0
VCC0
GND0
PRTRS
PRRCV
VCC0
HC8
HC7
HC6
HC5
HC4
HC3
HC2
HC1
GND0
PDTCT
SDTCT
ZONE
GND0
EXTM
EXTS
EXTP2
EXTP1
GND1
Y4
Y3
Y2
Y1
Y0
VCC1
GND1
fHSEL
fHCLK
GND1
ZNSW
VBLK
HBLK
RESET
TEST1
ISW0
QSW
GND0
IQCLK
IQSEL
VCC1
GND
TEST2
TEST3
GND1
SCLK
SDATA
ENB
C4801
0.1
C4802
0.1
C4803
0.1
C4805
0.1
C4804
100/16
C4806
0.1
C4807
YB
1000P
R4808
0
R4809
100
R4810
100
R4813
0
R4814
100
R4815
100
R4816
100
R4817
100
R4818
100
R4819
100
V+5V
GNDA
H 1/10
V+5V
GNDA
G. ENB
V. BLK1
GRST
CLK
DATA
1
4
2
0
3
H 5/10
VBLK2
DHBLK
VBLK0
C4808
100/16
IC4802
TC74HC14AF-TBB
1A
1Y
2A
2Y
3A
3Y
GND
VCC
6A
6Y
5A
5Y
4A
4Y
R4820
100
R4821
100
R4826
0
C4814
CH
220P
C4809
0.1
IC4803
TC74HC4040AF-TBB
Q12
Q6
Q5
Q7
Q4
Q3
Q2
GND
VCC
Q11
Q10
Q8
Q9
CLK
CK
Q1
C4812
0.1
PLL
IC4804
TLC2932IPW-TBB
L4801
QTL1013-A-T
L4802
QTL1013-A-T
C4810
0.1
C4811
0.1
V+5VGA
LOGIC VCC
SELECT
VCO OUT
FIN-A
FIN-B
PFD OUT
INHIBIT PFD
LOGIG GND
INHIBIT NC
VDD
RBIAS
VCOIN
VCO GND
VCO
R4822
100
R4823
100
R4824
100
R4825
2.7K
R4827
2.2K
C4813
YB
1000P
R4828
1.0K
C4815
0.1
FLESH_SYNC[0:4]
FLESH_SYNC[0:4]
GNDA
0 CLK
1 G. ENB
2 G. RST
3 DATA
4 V. BLK1
H 1/10

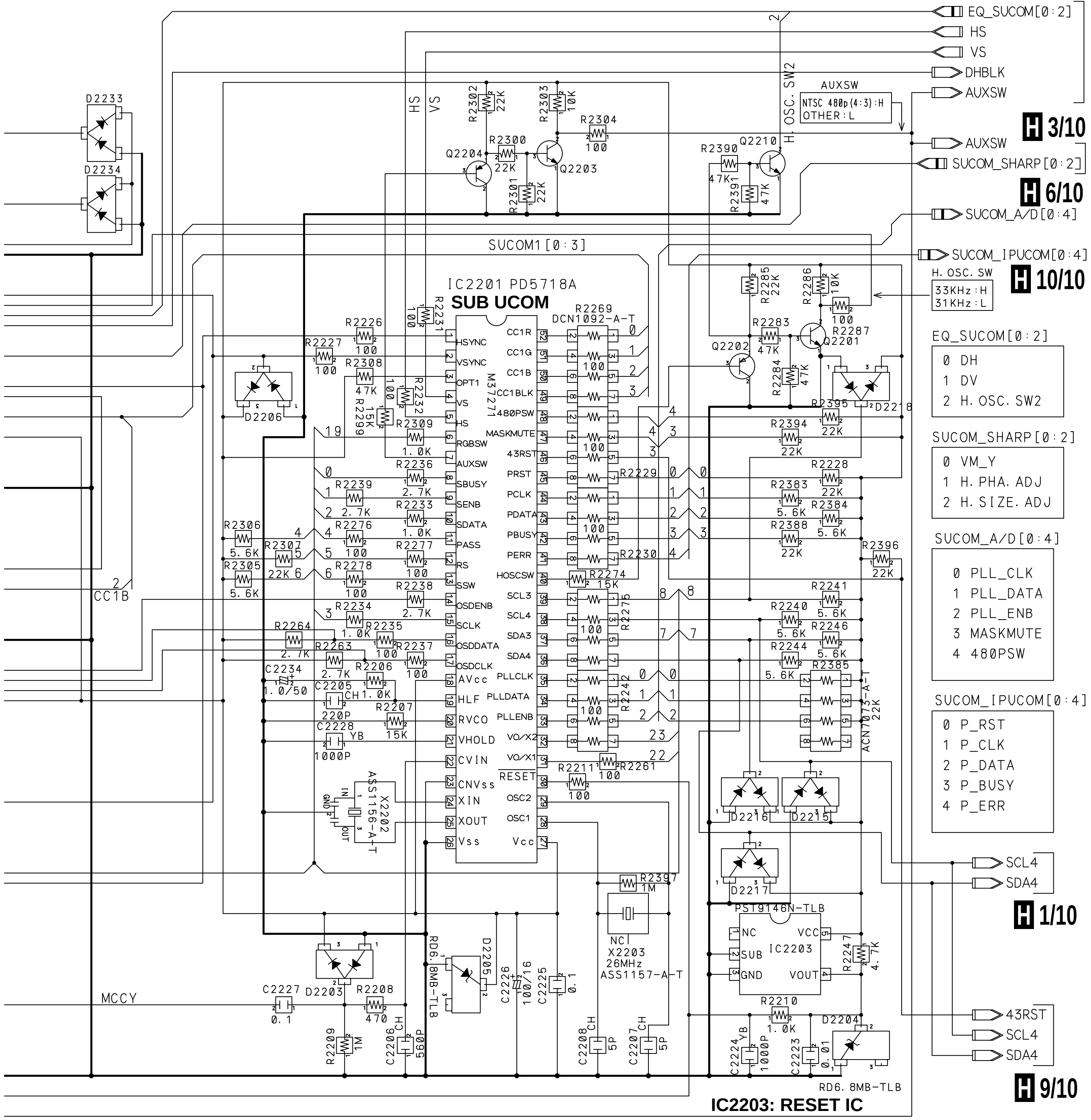
3.21 SUB VIDEO SERVICE ASSY (5/10)


L 1/3 CN305 K6
L 1/3 CN308 K2
I 1/2 CN1653 H6
Y1
CN2201
KM250MA13L
GND ABL GND V.BLK0 GND DH.BLK GND DV GND DH GND VM.Y GND
Y4
CN2202
KM250MA6L
GND GND H.OSC.SW H.PHA.ADJ H.SIZE.ADJ CPU.R
Y5
CN2203
KM250MA7LR
CV-R CV-G CV-B CV-BLK GND V.BLK2 SCCY
R2403 AWV1918 0
R2404 AWV1922 0
VBLK2
VBLK0
DHBLK
H 4/10
H 1/10
V+12V
VBLK0
DHBLK
V+5V
F2201
ATF1194-A-T
C2222 100/16
C2221 0.1
D2224 D2223 D2222 D2221 D2219 D2220 D2228 D2227 D2225 D2226 D2229 D2230 D2232 D2231
R2372 0
R2373 0
R2365 0
R2363 0
R2361 0
R2369 0
R2370 0
R2371 0
R2374 0
R2366 0
R2367 0
R2364 0
R2362 0
R2378 0
R2368 0
V+5VSU
C2241 CH 220P
R2375 22K
R2376 22K
R2377 1.0K
Q2209
CCD SW
CC1R 0
CC1BLK 3
CC1G
R2330 R2324 R2325 R2326 R2327 R2328 R2329 100
SELECT 1A 1B 1Y 2A 2B 2Y GND
VCC ST 4A 4B 4Y 3A 3B 3Y
IC2205
TC74HC157AF-TBB
C2220 0.1
R2331 R2332 R2333 R2334 R2335 100
GNDA
Q2206
R2340 100
R2342 100
R2341 2.2K
R2350 100
R2347 2.2K
Q2208
R2348 3.9K
R2349 1.0K
R2339 100
R2336 2.2K
Q2205
R2337 3.9K
R2338 1.0K
R2346 100
R2343 2.2K
Q2207
R2344 3.9K
R2345 1.0K
ABL CCDBLK CCDB CCDG CCDR SCCY
18 12 11 10 9 21
1SS226-TRB
2SA1162(YGR)-TLB
2SC2712(YGR)-TLB
RS1/16S***J-T 10P
CEAT***M++-T ***/++
0.1 CKSRYF104Z16-T
0.01 CKSRYF103Z50-T
YB 1000P CKSRYB102K50-T
CH 560P CCSQCH561J50-T
CH 5P CCSRCH5R0C50-T
CH CCSRCH***J50-T
OSD IC
SCL SDA XCS (NC) DVSS DC BLK2 BLK1 AVDD2 I B G R AVSS2
DVDD XRST V XIIC (NC) (NC) H ODD AVDD OSCOUT OSCIN REF LPF AVSS
PD0264AM-TFB
IC2204
R2220 100
R2218 100
R2219 2.7K
C2237 100/16
C2236 0.1
R2213 100
R2215 1.0K
D2210 D2212
L2201 LFA5R6J-T 5.6
R2214 100
R2225 100
R2224 100
14 OSDHALF
13 OSDBLK
15 OSDB
16 OSDG
17 OSDR
R2265 R2266 R2267 100
R2223 R2222 R2221 100
R2216 1M
R2217 1.0K
C2238 0.47/50
C2211 CH 12P
C2210 CH 39P
R2212 5.1K
C2209 0.1
C2239 100/16
20
H 1/10
GNDA
FLESH_SUCOM[0:23]
AUXSW

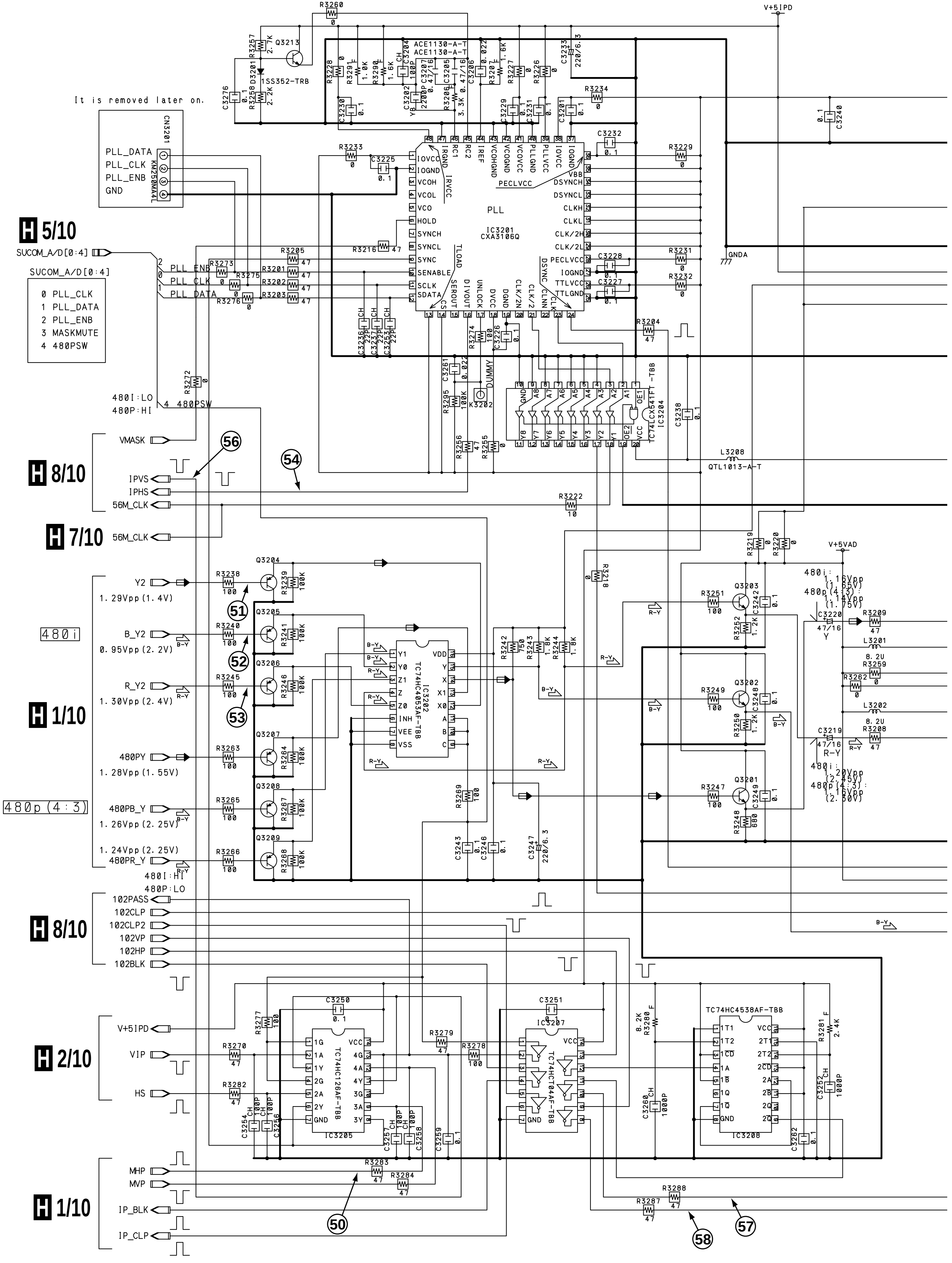
FLESH_SUCOM[0:23]

0 S_BUSY	3 S_CLK	6 S_SW	9 CCD.R	12 CCD.BLK	15 OSD.B	18 ABL	21 SCCY
1 S_ENB	4 PASS	7 SDA3	10 CCD.G	13 OSD.BLK	16 OSD.G	19 RGB.SW	22 V.OX1
2 S_DATA	5 RS	8 SCL3	11 CCD.B	14 OSD.HALF	17 OSD.R	20 MCCY	23 V.OX2

H 5/10 SUB VIDEO SERVICE ASSY (AWV1922)
• SUB UCOM BLOCK


H 2/10
EQ_SUCOM[0:2]
HS
VS
DHBLK
AUXSW
AUXSW
NTSC 480p(4:3):H
OTHER:L
H 3/10
AUXSW
SUCOM_SHARP[0:2]
H 6/10
SUCOM_A/D[0:4]
SUCOM_IPUCOM[0:4]
H. OSC. SW
33KHz:H
31KHz:L
H 10/10
EQ_SUCOM[0:2]
0 DH
1 DV
2 H. OSC. SW2
SUCOM_SHARP[0:2]
0 VM_Y
1 H. PHA. ADJ
2 H. SIZE. ADJ
SUCOM_A/D[0:4]
0 PLL_CLK
1 PLL_DATA
2 PLL_ENB
3 MASKMUTE
4 480PSW
SUCOM_IPUCOM[0:4]
0 P_RST
1 P_CLK
2 P_DATA
3 P_BUSY
4 P_ERR
SCL4
SDA4
H 1/10
43RST
SCL4
SDA4
H 9/10
D2233
D2234
HS
VS
H. OSC. SW2
R2302 22K
R2303 10K
R2304 100
R2300 22K
Q2204
Q2203
R2301 22K
R2390 47K
Q2210
R2391 47K
SUCOM1[0:3]
IC2201 PD5718A
SUB UCOM
M37271
R2231 100
R2269 DCN1092-A-T
R2226 100
R2227 100
R2308 47K
R2232 100
R2299 15K
R2309 1.0K
R2236 2.7K
R2239 2.7K
R2233 1.0K
R2276 100
R2277 100
R2306 5.6K
R2307 22K
R2305 5.6K
R2278 100
R2238 2.7K
R2234 1.0K
R2235 100
R2237 100
R2264 2.7K
R2263 2.7K
C2234 1.0/50
C2205 CH 220P
R2206 1.0K
R2207 15K
C2228 YB 1000P
X2202 ASS1156-A-T
D2206
CC1B
HSYNC
VSYNC
OPT1
VS
HS
RGBSW
AUXSW
SBUSY
SENB
SDATA
PASS
RS
SSW
OSDENB
SCLK
OSDDATA
OSDCLK
AVcc
HLF
RVCO
VHOLD
CVIN
CNVss
XIN
XOUT
Vss
CC1R
CC1G
CC1B
CC1BLK
480PSW
MASKMUTE
43RST
PRST
PCLK
PDATA
PBUSY
PERR
HOSCSW
SCL3
SCL4
SDA3
SDA4
PLLCLK
PLLDATA
PLLENB
VO/X2
VO/X1
RESET
OSC2
OSC1
Vcc
R2229
R2230
R2274 15K
R2275
R2242
R2211 100
R2261
R2285 22K
R2286 10K
R2287 100
R2283 47K
Q2202
Q2201
R2284 47K
R2395 22K
D2218
R2394 22K
R2228 22K
R2383 5.6K
R2384 5.6K
R2388 22K
R2396 22K
R2241 5.6K
R2240 5.6K
R2246 5.6K
R2244 5.6K
R2385 ACN7013-A-T 22K
D2216
D2215
D2217
R2397 1M
X2203 26MHz ASS1157-A-T
NC
PST9146N-TLB
IC2203
NC
SUB
GND
VCC
VOUT
R2247 4.7K
R2210 1.0K
D2204
C2224 YB 1000P
C2223 0.01
RD6.8MB-TLB
IC2203: RESET IC
MCCY
C2227 0.1
D2203
R2208 470
R2209 1M
C2206 CH 560P
RD6.8MB-TLB
D2205
C2226 100/16
C2225 0.1
C2208 CH 5P
C2207 CH 5P

3.22 SUB VIDEO SERVICE ASSY (6/10)

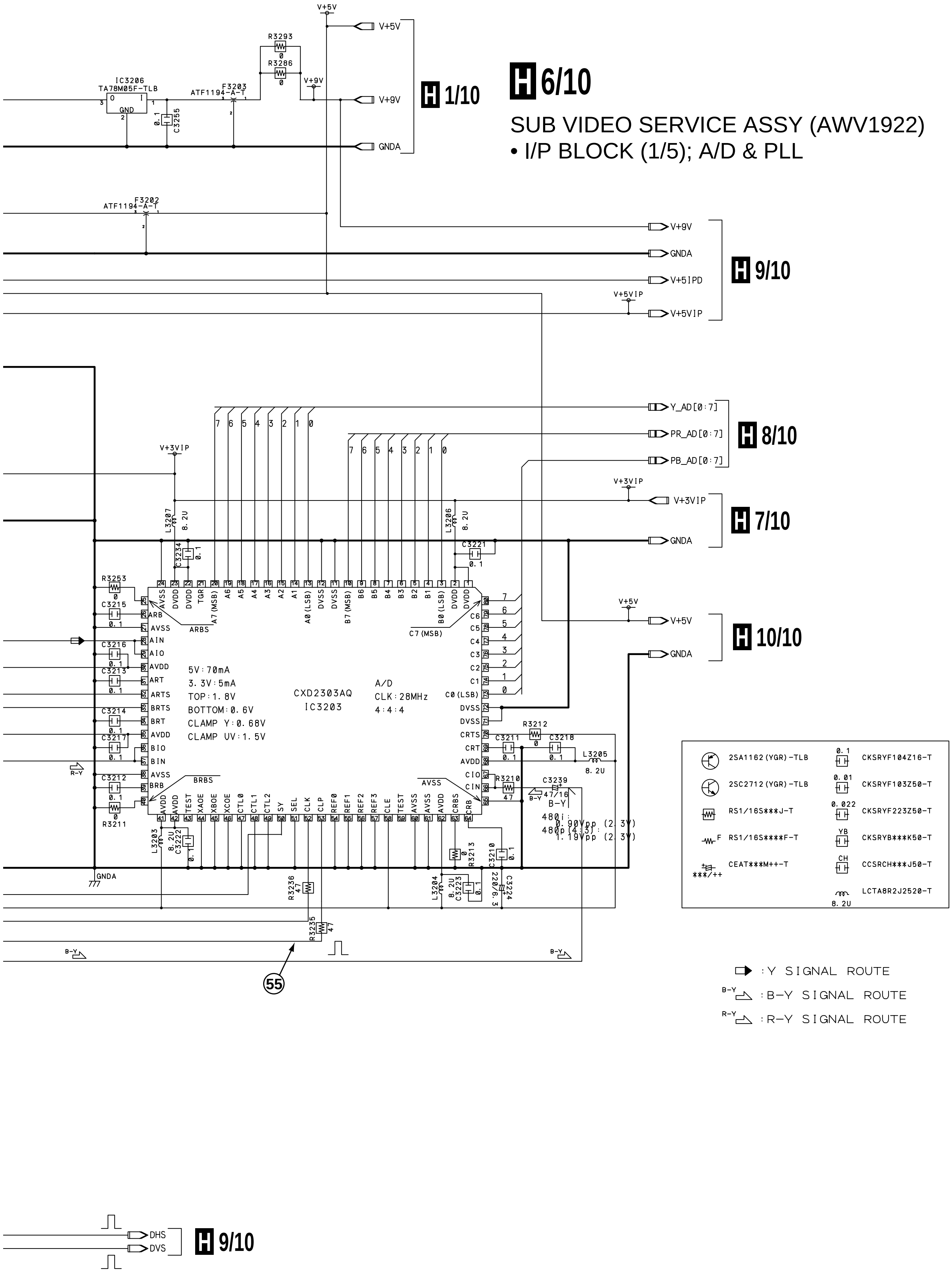


It is removed later on.
CN3201
KM250NA4L
PLL_DATA
PLL_CLK
PLL_ENB
GND
H 5/10
SUCOM_A/D[0:4]
0 PLL_CLK
1 PLL_DATA
2 PLL_ENB
3 MASKMUTE
4 480PSW
480I:LO
480P:HI
4 480PSW
VMASK
H 8/10
IPVS
IPHS
56M_CLK
H 7/10
56M_CLK
Y2
1.29Vpp(1.4V)
480i
B_Y2
0.95Vpp(2.2V)
R_Y2
1.30Vpp(2.4V)
H 1/10
480PY
1.28Vpp(1.55V)
480p(4:3)
480PB_Y
1.26Vpp(2.25V)
1.24Vpp(2.25V)
480PR_Y
480I:HI
480P:LO
102PASS
102CLP
102CLP2
102VP
102HP
102BLK
H 8/10
V+5IPD
VIP
HS
H 2/10
MHP
MVP
IP_BLK
IP_CLP
H 1/10
Q3213
D3201
1SS352-TRB
R3260
IC3201
CXA3106Q
PLL
ACE1130-A-T
IC3204
TC74LCX541FT-TBB
K3202
DUMMY
L3208
QTL1013-A-T
V+5IPD
GNDA
V+5VAD
IC3202
TC74HC4053AF-TBB
Q3204
Q3205
Q3206
Q3207
Q3208
Q3209
Q3203
Q3202
Q3201
480i: 1.16Vpp (1.55V)
480p(4:3): 1.14Vpp (1.75V)
Y
R-Y
480i: 1.20Vpp (2.25V)
480p(4:3): 1.16Vpp (2.50V)
L3201
L3202
8.2U
IC3205
TC74HC126AF-TBB
IC3207
TC74HCT04AF-TBB
IC3208
TC74HC4538AF-TBB
B-Y
R-Y
50
51
52
53
54
56
57
58
1
2
3
4
A
B
C
D

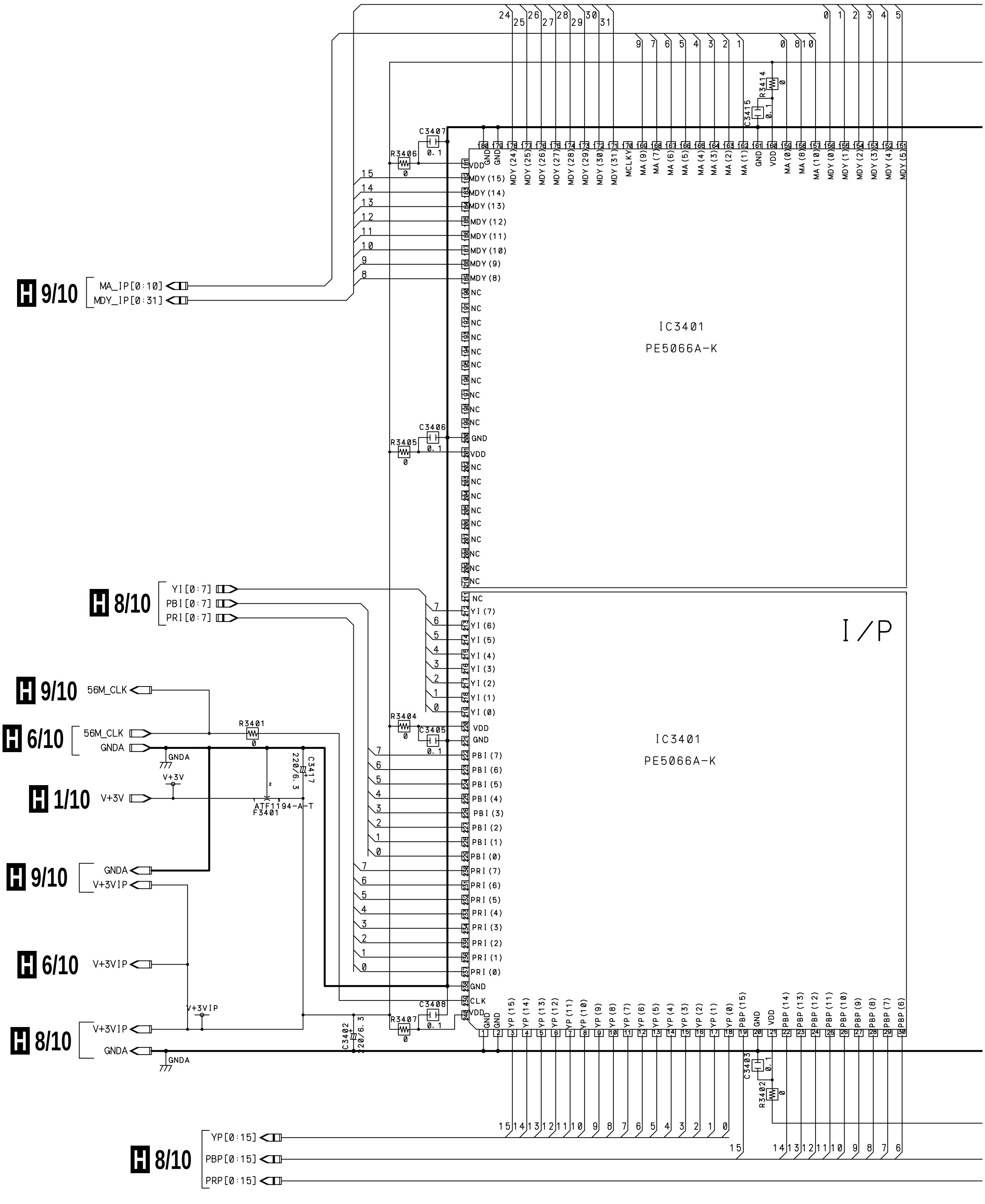
H 6/10

H 6/10

SUB VIDEO SERVICE ASSY (AWV1922)
• I/P BLOCK (1/5); A/D & PLL

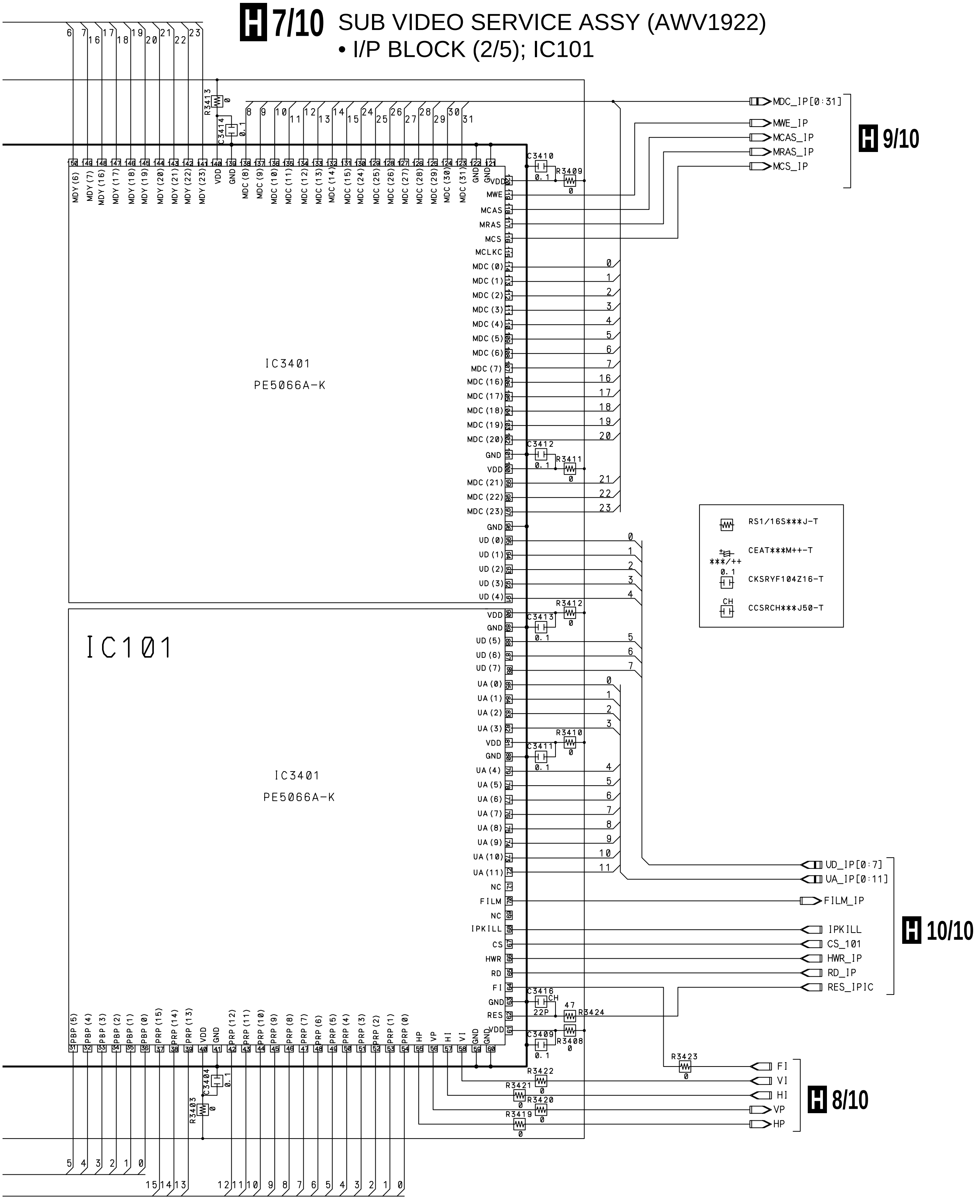

V+5V
R3293
0
R3286
0
V+9V
IC3206
TA78M05F-TLB
GND
F3203
ATF1194-A-T
0.1
C3255
V+5V
V+9V
GNDA
H 1/10
F3202
ATF1194-A-T
V+9V
GNDA
V+5IPD
V+5VIP
V+5VIP
H 9/10
Y_AD[0:7]
PR_AD[0:7]
PB_AD[0:7]
H 8/10
V+3VIP
V+3VIP
V+3VIP
L3207
8.2U
L3206
8.2U
C3234
0.1
C3221
0.1
GNDA
H 7/10
V+5V
V+5V
GNDA
H 10/10
R3253
0
C3215
0.1
C3216
0.1
C3213
0.1
C3214
0.1
C3217
0.1
C3212
0.1
R3211
0
AVSS
DVDD
DVDD
TGR
A7(MSB)
A6
A5
A4
A3
A2
A1
A0(LSB)
DVSS
DVSS
B7(MSB)
B6
B5
B4
B3
B2
B1
B0(LSB)
DVDD
DVDD
ARB
AVSS
AIN
AIO
AVDD
ART
ARTS
BRTS
BRT
AVDD
BIO
BIN
AVSS
BRB
ARBS
C6
C5
C4
C3
C2
C1
C0(LSB)
C7(MSB)
DVSS
DVSS
CRTS
CRT
AVDD
CIO
CIN
CRB
5V:70mA
3.3V:5mA
TOP:1.8V
BOTTOM:0.6V
CLAMP Y:0.68V
CLAMP UV:1.5V
CXD2303AQ
IC3203
A/D
CLK:28MHz
4:4:4
BRBS
AVSS
AVDD
AVDD
TEST
XAOE
XBOE
XCOE
CTL0
CTL1
CTL2
SY
SEL
CLK
CLP
REF0
REF1
REF2
REF3
CLE
TEST
AVSS
AVSS
AVDD
CRBS
CRB
R3212
0
C3211
0.1
C3218
0.1
L3205
8.2U
R3210
47
C3239
47/16
B-Y
480i:
0.90Vpp (2.3V)
480p(4:3):
1.19Vpp (2.3V)
L3203
8.2U
C3222
0.1
R3213
0
C3210
0.1
L3204
8.2U
C3223
0.1
C3224
220/6.3
R3236
47
R3235
47
GNDA
R-Y
B-Y
B-Y
55
DHS
DVS
H 9/10
2SA1162(YGR)-TLB
2SC2712(YGR)-TLB
RS1/16S***J-T
F RS1/16S****F-T
/++ CEATM++-T
0.1 CKSRYF104Z16-T
0.01 CKSRYF103Z50-T
0.022 CKSRYF223Z50-T
YB CKSRYB***K50-T
CH CCSRCH***J50-T
8.2U LCTA8R2J2520-T
:Y SIGNAL ROUTE
B-Y :B-Y SIGNAL ROUTE
R-Y :R-Y SIGNAL ROUTE
A
B
C
D

3.23 SUB VIDEO SERVICE ASSY (7/10)


H 9/10
MA_IP[0:10]
MDY_IP[0:31]
H 8/10
YI[0:7]
PBI[0:7]
PRI[0:7]
H 9/10
56M_CLK
H 6/10
56M_CLK
GNDA
H 1/10
V+3V
H 9/10
GNDA
V+3VIP
H 6/10
V+3VIP
H 8/10
V+3VIP
GNDA
H 8/10
YP[0:15]
PBP[0:15]
PRP[0:15]
IC3401
PE5066A-K
I/P
R3401
0
C3417
220/6.3
ATF1194-A-T
F3401
C3402
220/6.3
R3404
0
C3405
0.1
R3405
0
C3406
0.1
R3406
0
C3407
0.1
R3407
0
C3408
0.1
R3414
0
C3415
0.1
R3402
0
C3403
0.1
GNDA
V+3V
V+3VIP
VDD
GND
MDY(15)
MDY(14)
MDY(13)
MDY(12)
MDY(11)
MDY(10)
MDY(9)
MDY(8)
NC
YI(7)
YI(6)
YI(5)
YI(4)
YI(3)
YI(2)
YI(1)
YI(0)
PBI(7)
PBI(6)
PBI(5)
PBI(4)
PBI(3)
PBI(2)
PBI(1)
PBI(0)
PRI(7)
PRI(6)
PRI(5)
PRI(4)
PRI(3)
PRI(2)
PRI(1)
PRI(0)
CLK
MDY(24)
MDY(25)
MDY(26)
MDY(27)
MDY(28)
MDY(29)
MDY(30)
MDY(31)
MCLKY
MA(9)
MA(7)
MA(6)
MA(5)
MA(4)
MA(3)
MA(2)
MA(1)
MA(0)
MA(8)
MA(10)
MDY(0)
MDY(1)
MDY(2)
MDY(3)
MDY(4)
MDY(5)
YP(15)
YP(14)
YP(13)
YP(12)
YP(11)
YP(10)
YP(9)
YP(8)
YP(7)
YP(6)
YP(5)
YP(4)
YP(3)
YP(2)
YP(1)
YP(0)
PBP(15)
PBP(14)
PBP(13)
PBP(12)
PBP(11)
PBP(10)
PBP(9)
PBP(8)
PBP(7)
PBP(6)

H 7/10 SUB VIDEO SERVICE ASSY (AWV1922)

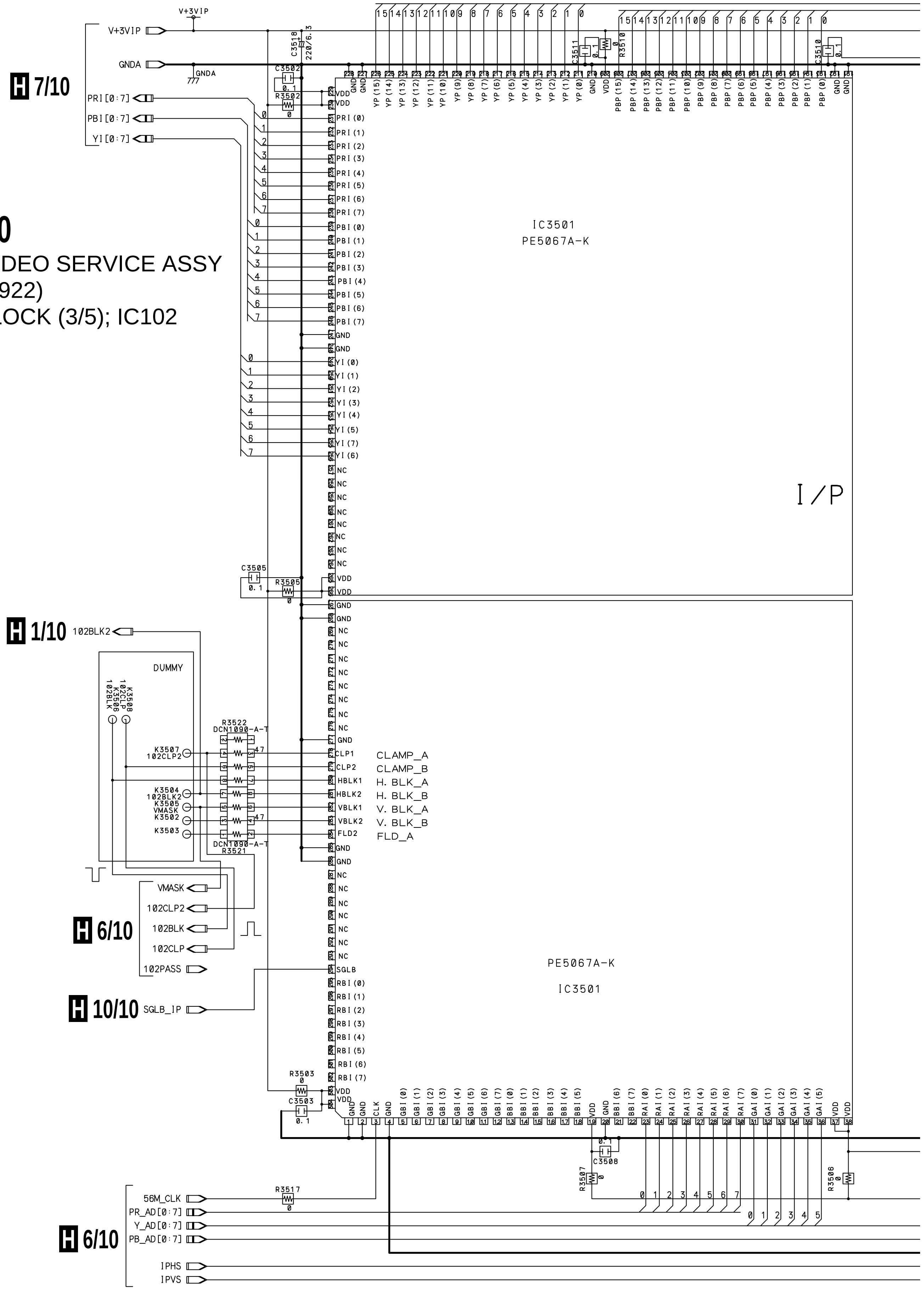
• I/P BLOCK (2/5); IC101


IC101
IC3401
PE5066A-K
MDY(6)
MDY(7)
MDY(16)
MDY(17)
MDY(18)
MDY(19)
MDY(20)
MDY(21)
MDY(22)
MDY(23)
VDD
GND
MDC(8)
MDC(9)
MDC(10)
MDC(11)
MDC(12)
MDC(13)
MDC(14)
MDC(15)
MDC(24)
MDC(25)
MDC(26)
MDC(27)
MDC(28)
MDC(29)
MDC(30)
MDC(31)
MWE
MCAS
MRAS
MCS
MCLKC
MDC(0)
MDC(1)
MDC(2)
MDC(3)
MDC(4)
MDC(5)
MDC(6)
MDC(7)
MDC(16)
MDC(17)
MDC(18)
MDC(19)
MDC(20)
MDC(21)
MDC(22)
MDC(23)
UD(0)
UD(1)
UD(2)
UD(3)
UD(4)
UD(5)
UD(6)
UD(7)
UA(0)
UA(1)
UA(2)
UA(3)
UA(4)
UA(5)
UA(6)
UA(7)
UA(8)
UA(9)
UA(10)
UA(11)
NC
FILM
IPKILL
CS
HWR
RD
FI
RES
PBP(5)
PBP(4)
PBP(3)
PBP(2)
PBP(1)
PBP(0)
PRP(15)
PRP(14)
PRP(13)
PRP(12)
PRP(11)
PRP(10)
PRP(9)
PRP(8)
PRP(7)
PRP(6)
PRP(5)
PRP(4)
PRP(3)
PRP(2)
PRP(1)
PRP(0)
HP
VP
HI
VI
R3413 0
C3414 0.1
C3410 0.1
R3409 0
C3412 0.1
R3411 0
R3412 0
C3413 0.1
R3410 0
C3411 0.1
C3416 CH 22P
47 R3424
C3409 0.1
R3408 0
R3423 0
R3422 0
R3421 0
R3420 0
R3419 0
C3404 0.1
R3403 0
MDC_IP[0:31]
MWE_IP
MCAS_IP
MRAS_IP
MCS_IP
H 9/10
UD_IP[0:7]
UA_IP[0:11]
FILM_IP
IPKILL
CS_101
HWR_IP
RD_IP
RES_IPIC
H 10/10
FI
VI
HI
VP
HP
H 8/10
RS1/16S***J-T
/++ CEATM++-T
0.1 CKSRYF104Z16-T
CH CCSRCH***J50-T

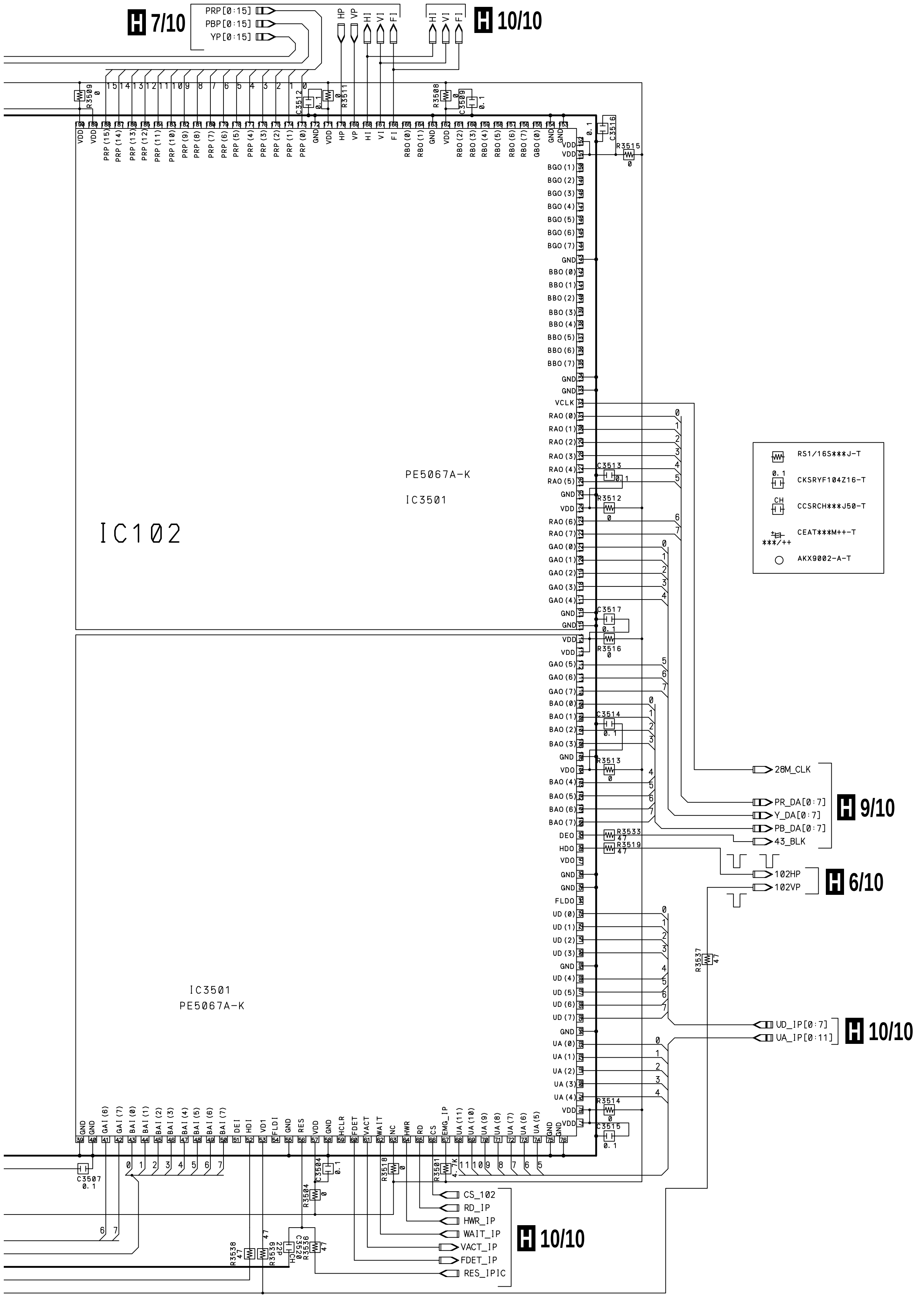
3.24 SUB VIDEO SERVICE ASSY (8/10)

H 8/10

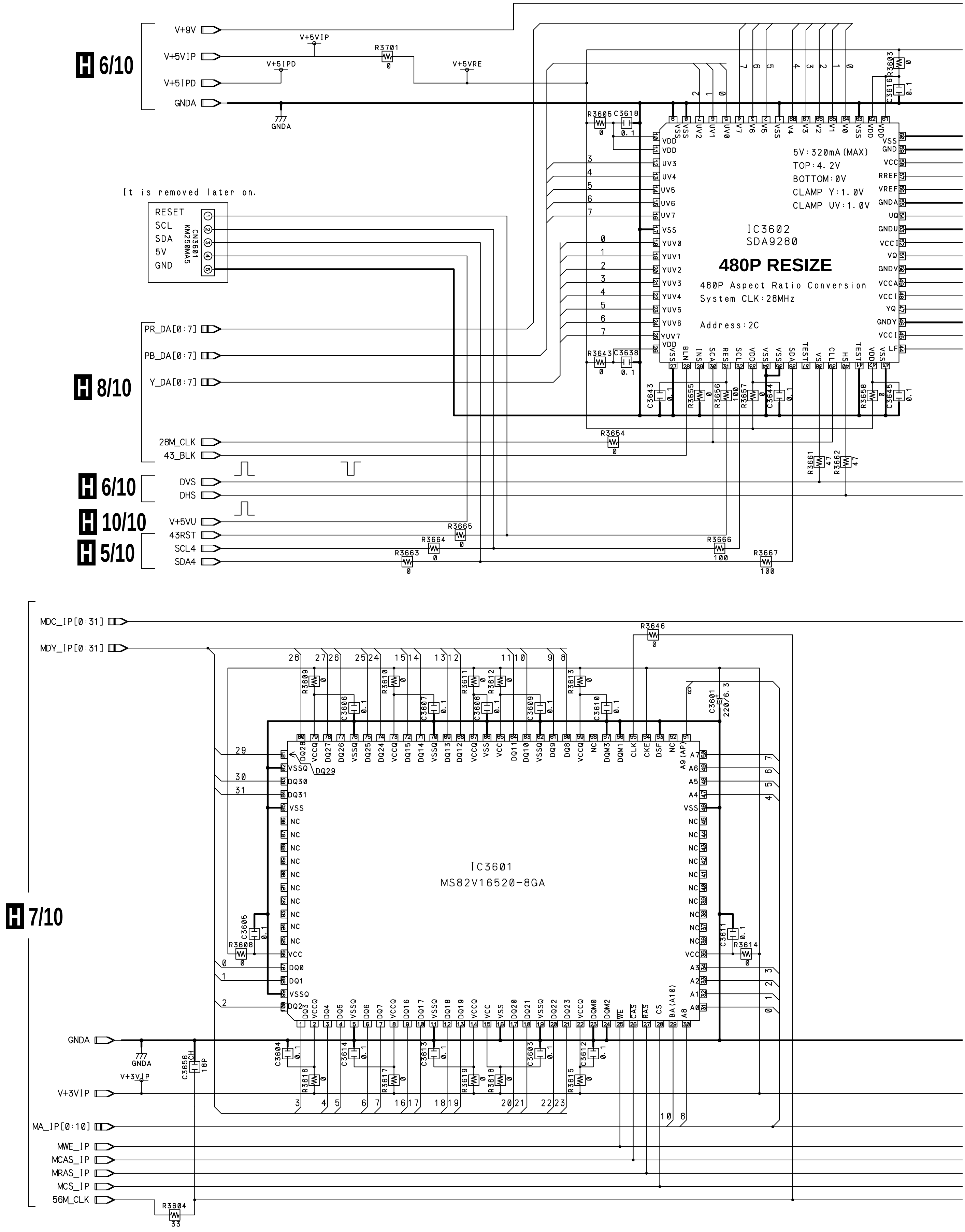
SUB VIDEO SERVICE ASSY
(AWV1922)
- I/P BLOCK (3/5); IC102



V+3VIP
GNDA
H 7/10
PRI[0:7]
PBI[0:7]
YI[0:7]
C3518 220/6.3
C3502 0.1
R3502 0
C3511 0.1
R3510 0
C3510 0.1
YP(15) YP(14) YP(13) YP(12) YP(11) YP(10) YP(9) YP(8) YP(7) YP(6) YP(5) YP(4) YP(3) YP(2) YP(1) YP(0)
PBP(15) PBP(14) PBP(13) PBP(12) PBP(11) PBP(10) PBP(9) PBP(8) PBP(7) PBP(6) PBP(5) PBP(4) PBP(3) PBP(2) PBP(1) PBP(0)
VDD
GND
PRI(0) PRI(1) PRI(2) PRI(3) PRI(4) PRI(5) PRI(6) PRI(7)
PBI(0) PBI(1) PBI(2) PBI(3) PBI(4) PBI(5) PBI(6) PBI(7)
YI(0) YI(1) YI(2) YI(3) YI(4) YI(5) YI(7) YI(6)
NC
IC3501
PE5067A-K
I/P
C3505 0.1
R3505 0
H 1/10
102BLK2
DUMMY
K3508 102CLP
K3506 102BLK
R3522 DCN1090-A-T
K3507 102CLP2
K3504 102BLK2
K3505 VMASK
K3502
K3503
47
R3521 DCN1090-A-T
CLP1 CLP2 HBLK1 HBLK2 VBLK1 VBLK2 FLD2
CLAMP_A
CLAMP_B
H. BLK_A
H. BLK_B
V. BLK_A
V. BLK_B
FLD_A
H 6/10
VMASK
102CLP2
102BLK
102CLP
102PASS
SGLB
H 10/10
SGLB_IP
RBI(0) RBI(1) RBI(2) RBI(3) RBI(4) RBI(5) RBI(6) RBI(7)
R3503 0
C3503 0.1
CLK
GBI(0) GBI(1) GBI(2) GBI(3) GBI(4) GBI(5) GBI(6) GBI(7)
BBI(0) BBI(1) BBI(2) BBI(3) BBI(4) BBI(5) BBI(6) BBI(7)
RAI(0) RAI(1) RAI(2) RAI(3) RAI(4) RAI(5) RAI(6) RAI(7)
GAI(0) GAI(1) GAI(2) GAI(3) GAI(4) GAI(5)
C3508 0.1
R3507 0
R3506 0
R3517 0
56M_CLK
PR_AD[0:7]
Y_AD[0:7]
PB_AD[0:7]
H 6/10
IPHS
IPVS

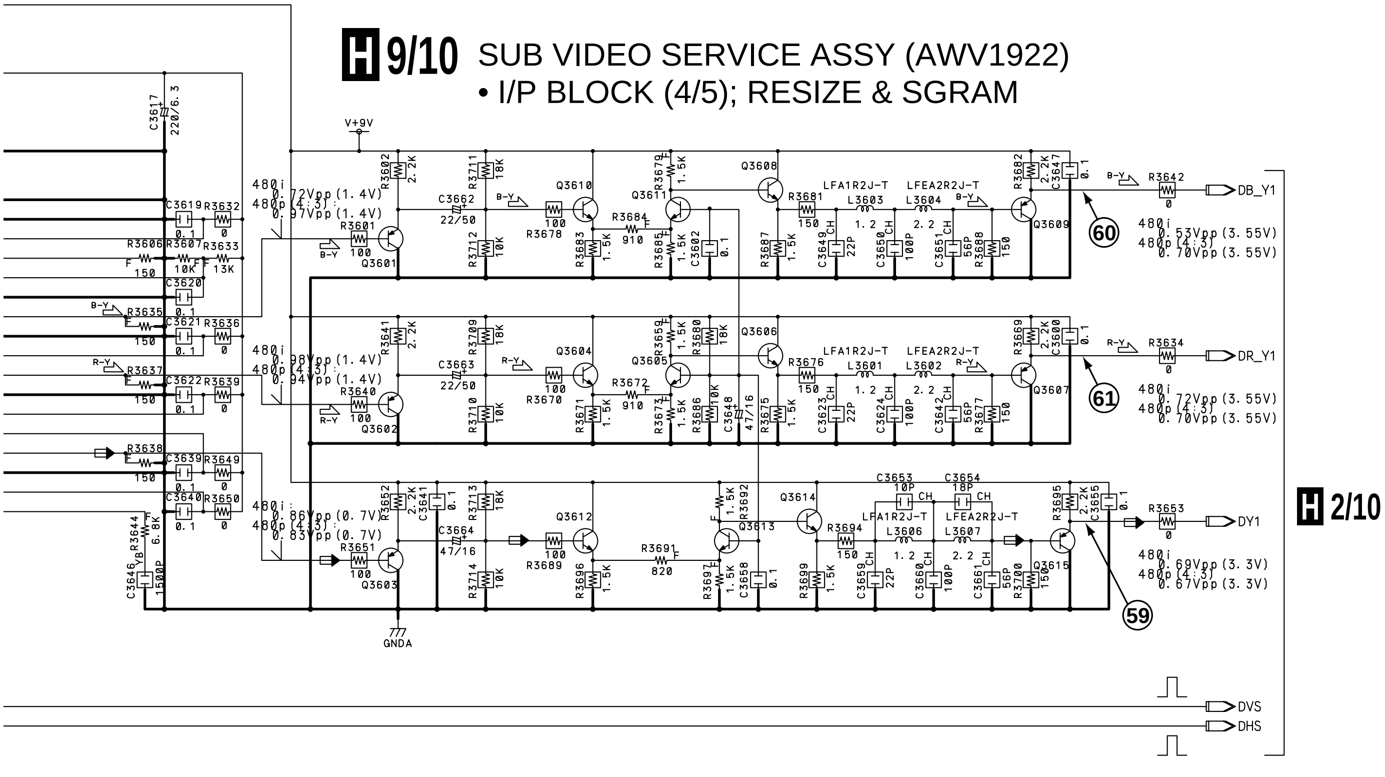

H 7/10
PRP[0:15]
PBP[0:15]
YP[0:15]
HP
VP
HI
VI
FI
H 10/10
IC102
IC3501
PE5067A-K
R3509 0
R3511 0
C3512 0.1
R3508 0
C3509 0.1
C3516 0.1
R3515 0
C3513 0.1
R3512 0
C3517 0.1
R3516 0
C3514 0.1
R3513 0
R3533 47
R3519 47
R3537 47
R3514 0
C3515 0.1
C3507 0.1
C3504 0.1
R3504 0
R3518 0
R3501 4.7K
R3538 47
R3539 47
C3505 22P
R3536 47
28M_CLK
PR_DA[0:7]
Y_DA[0:7]
PB_DA[0:7]
43_BLK
H 9/10
102HP
102VP
H 6/10
UD_IP[0:7]
UA_IP[0:11]
H 10/10
CS_102
RD_IP
HWR_IP
WAIT_IP
VACT_IP
FDET_IP
RES_IPIC
H 10/10
RS1/16S***J-T
CKSRYF104Z16-T
CCSRCH***J50-T
CEAT***M++-T
***/++
AKX9002-A-T
VDD
GND
VCLK
RAO(0)
RAO(1)
RAO(2)
RAO(3)
RAO(4)
RAO(5)
RAO(6)
RAO(7)
GAO(0)
GAO(1)
GAO(2)
GAO(3)
GAO(4)
GAO(5)
GAO(6)
GAO(7)
BAO(0)
BAO(1)
BAO(2)
BAO(3)
BAO(4)
BAO(5)
BAO(6)
BAO(7)
BGO(1)
BGO(2)
BGO(3)
BGO(4)
BGO(5)
BGO(6)
BGO(7)
BBO(0)
BBO(1)
BBO(2)
BBO(3)
BBO(4)
BBO(5)
BBO(6)
BBO(7)
RBO(0)
RBO(1)
RBO(2)
RBO(3)
RBO(4)
RBO(5)
RBO(6)
RBO(7)
GBO(0)
DEO
HDO
VDO
FLDO
UD(0)
UD(1)
UD(2)
UD(3)
UD(4)
UD(5)
UD(6)
UD(7)
UA(0)
UA(1)
UA(2)
UA(3)
UA(4)
UA(5)
UA(6)
UA(7)
UA(8)
UA(9)
UA(10)
UA(11)
EMG_IP
CS
RD
HWR
NC
WAIT
VACT
FDET
HCLR
RES
FLDI
VDI
HDI
DEI
BAI(0)
BAI(1)
BAI(2)
BAI(3)
BAI(4)
BAI(5)
BAI(6)
BAI(7)
GAI(6)
GAI(7)
PRP(0)
PRP(1)
PRP(2)
PRP(3)
PRP(4)
PRP(5)
PRP(6)
PRP(7)
PRP(8)
PRP(9)
PRP(10)
PRP(11)
PRP(12)
PRP(13)
PRP(14)
PRP(15)

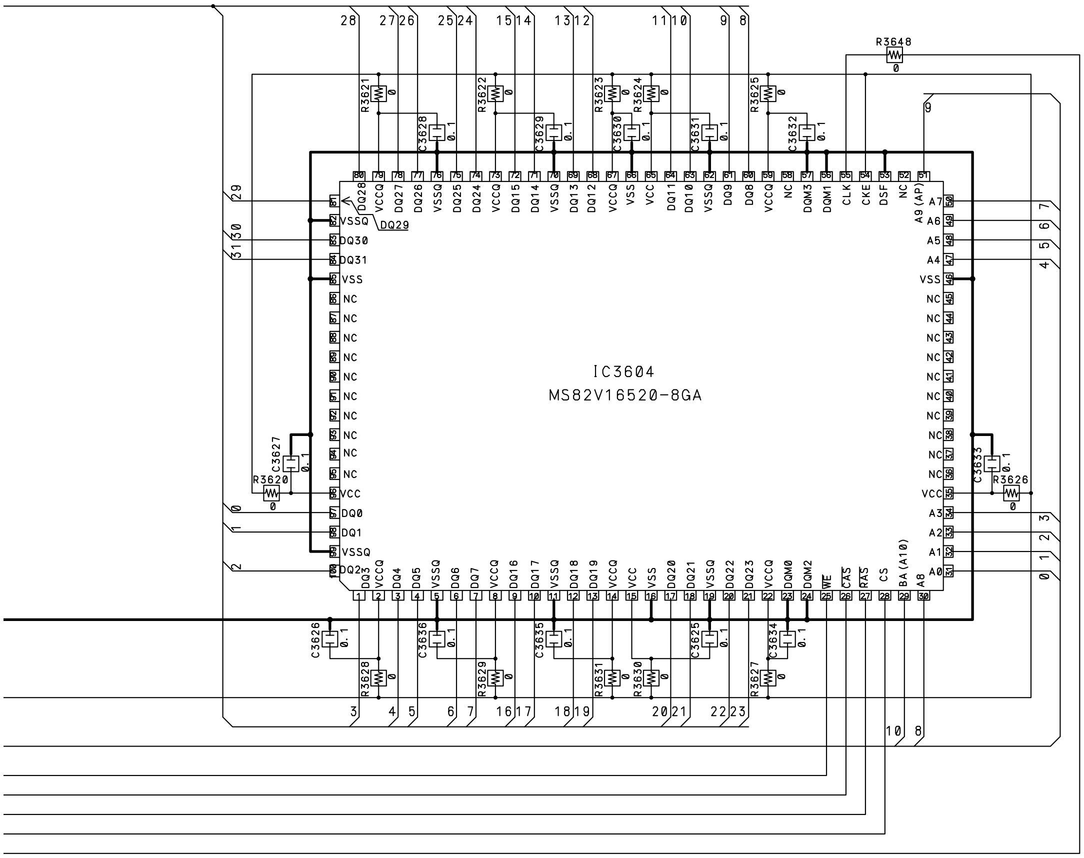
3.25 SUB VIDEO SERVICE ASSY (9/10)


A
B
C
D
H 6/10
V+9V
V+5VIP
V+5IPD
GNDA
R3701
0
V+5VRE
It is removed later on.
RESET
SCL
SDA
5V
GND
CN3601
KM250MA5
H 8/10
PR_DA[0:7]
PB_DA[0:7]
Y_DA[0:7]
28M_CLK
43_BLK
H 6/10
DVS
DHS
H 10/10
V+5VU
43RST
H 5/10
SCL4
SDA4
R3605
C3618
R3603
C3616
R3643
C3638
R3654
R3643
C3643
R3655
R3656
R3657
C3644
R3658
C3645
R3661
R3662
R3663
R3664
R3665
R3666
R3667
IC3602
SDA9280
480P RESIZE
480P Aspect Ratio Conversion
System CLK:28MHz
Address:2C
5V:320mA(MAX)
TOP:4.2V
BOTTOM:0V
CLAMP Y:1.0V
CLAMP UV:1.0V
VDD
UV3
UV4
UV5
UV6
UV7
VSS
YUV0
YUV1
YUV2
YUV3
YUV4
YUV5
YUV6
YUV7
UV2
UV1
UV0
V7
V6
V5
V4
V3
V2
V1
V0
BLN
INS
SCA
RES
SCL
SDA
TEST
CLL
HS
VSS
GND
VCC
RREF
VREF
GNDA
UQ
GNDU
VCCI
VQ
GNDV
VCCA
YQ
GNDY
LF
H 7/10
MDC_IP[0:31]
MDY_IP[0:31]
R3646
IC3601
MS82V16520-8GA
DQ0
DQ1
DQ2
DQ28
DQ29
DQ30
DQ31
VSSQ
VCCQ
NC
DQM0
DQM1
DQM2
DQM3
WE
CAS
RAS
CS
BA(A10)
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9(AP)
CLK
CKE
DSF
R3608
R3609
R3610
R3611
R3612
R3613
R3614
R3615
R3616
R3617
R3618
R3619
C3601
220/6.3
C3603
C3604
C3605
C3606
C3607
C3608
C3609
C3610
C3611
C3612
C3613
C3614
C3656
18P
GNDA
V+3VIP
MA_IP[0:10]
MWE_IP
MCAS_IP
MRAS_IP
MCS_IP
56M_CLK
R3604
33

H 9/10 SUB VIDEO SERVICE ASSY (AWV1922)

• I/P BLOCK (4/5); RESIZE & SGRAM


V+9V
C3617 220/6.3
C3619 0.1
R3632 0
R3606 150
R3607 10K
R3633 13K
C3620 0.1
R3635 150
C3621 0.1
R3636 0
R3637 150
C3622 0.1
R3639 0
R3638 150
C3639 0.1
R3649 0
C3640 0.1
R3650 0
R3644 6.8K
C3646 YB 1500P
480i 0.72Vpp(1.4V)
480p(4:3) 0.97Vpp(1.4V)
480i 0.98Vpp(1.4V)
480p(4:3) 0.94Vpp(1.4V)
480i 0.86Vpp(0.7V)
480p(4:3) 0.83Vpp(0.7V)
R3601 100
R3640 100
R3651 100
Q3601
Q3602
Q3603
R3602 2.2K
R3641 2.2K
R3652 2.2K
C3641 0.1
C3662 22/50
C3663 22/50
C3664 47/16
R3711 18K
R3709 18K
R3713 18K
R3712 10K
R3710 10K
R3714 10K
R3678 100
R3670 100
R3689 100
Q3610
Q3604
Q3612
Q3611
Q3605
Q3613
R3684 910
R3672 910
R3691 820
R3683 1.5K
R3671 1.5K
R3696 1.5K
R3679 1.5K
R3685 1.5K
R3659 1.5K
R3673 1.5K
R3680 18K
R3686 10K
R3692 1.5K
R3697 1.5K
C3602 0.1
C3648 47/16
C3658 0.1
Q3608
Q3606
Q3614
R3687 1.5K
R3675 1.5K
R3699 1.5K
R3681 150
R3676 150
R3694 150
LFA1R2J-T
LFEA2R2J-T
L3603 1.2
L3604 2.2
L3601 1.2
L3602 2.2
L3606 1.2
L3607 2.2
C3649 CH 22P
C3650 CH 100P
C3651 CH 56P
C3623 CH 22P
C3624 CH 100P
C3642 CH 56P
C3659 CH 22P
C3660 CH 100P
C3661 CH 56P
C3653 10P CH
C3654 18P CH
R3688 150
R3677 150
R3700 150
R3682 2.2K
R3669 2.2K
R3695 2.2K
C3647 0.1
C3600 0.1
C3655 0.1
Q3609
Q3607
Q3615
R3642 0
R3634 0
R3653 0
DB_Y1
DR_Y1
DY1
DVS
DHS
60
61
59
480i 0.53Vpp(3.55V)
480p(4:3) 0.70Vpp(3.55V)
480i 0.72Vpp(3.55V)
480p(4:3) 0.70Vpp(3.55V)
480i 0.69Vpp(3.3V)
480p(4:3) 0.67Vpp(3.3V)
B-Y
R-Y
F
GNDA
H 2/10


IC3604
MS82V16520-8GA
R3648 0
R3621 0
R3622 0
R3623 0
R3624 0
R3625 0
C3628 0.1
C3629 0.1
C3630 0.1
C3631 0.1
C3632 0.1
C3627 0.1
R3620 0
C3633 0.1
R3626 0
C3626 0.1
C3636 0.1
C3635 0.1
C3625 0.1
C3634 0.1
R3628 0
R3629 0
R3631 0
R3630 0
R3627 0
DQ28 VCCQ DQ27 DQ26 VSSQ DQ25 DQ24 VCCQ DQ15 DQ14 VSSQ DQ13 DQ12 VCCQ VSS VCC DQ11 DQ10 VSSQ DQ9 DQ8 VCCQ NC DQM3 DQM1 CLK CKE DSF NC
DQ29 VSSQ DQ30 DQ31 VSS NC VCC DQ0 DQ1 VSSQ DQ2
A7 A9(AP) A6 A5 A4 VSS NC VCC A3 A2 A1 A0
DQ3 VCCQ DQ4 DQ5 VSSQ DQ6 DQ7 VCCQ DQ16 DQ17 VSSQ DQ18 DQ19 VCCQ VCC VSS DQ20 DQ21 VSSQ DQ22 DQ23 VCCQ DQM0 DQM2 WE CAS RAS CS BA(A10) A8
28 27 26 25 24 15 14 13 12 11 10 9 8
29 31 30 0 1 2
3 4 5 6 7 16 17 18 19 20 21 22 23 10 8
7 6 5 4 3 2 1 0 9

	2SA1162(YGR)-TLB	YB	CKSRYB***K50-T
	2SC2712(YGR)-TLB	0.1	CKSRYF104Z16-T
	RS1/16S***J-T	10P CH	CCSRCH100D50-T
F	RS1/16S****F-T	CH	CCSRCH***J50-T
***/++	CEAT***M++-T		

⇨ :Y SIGNAL ROUTE

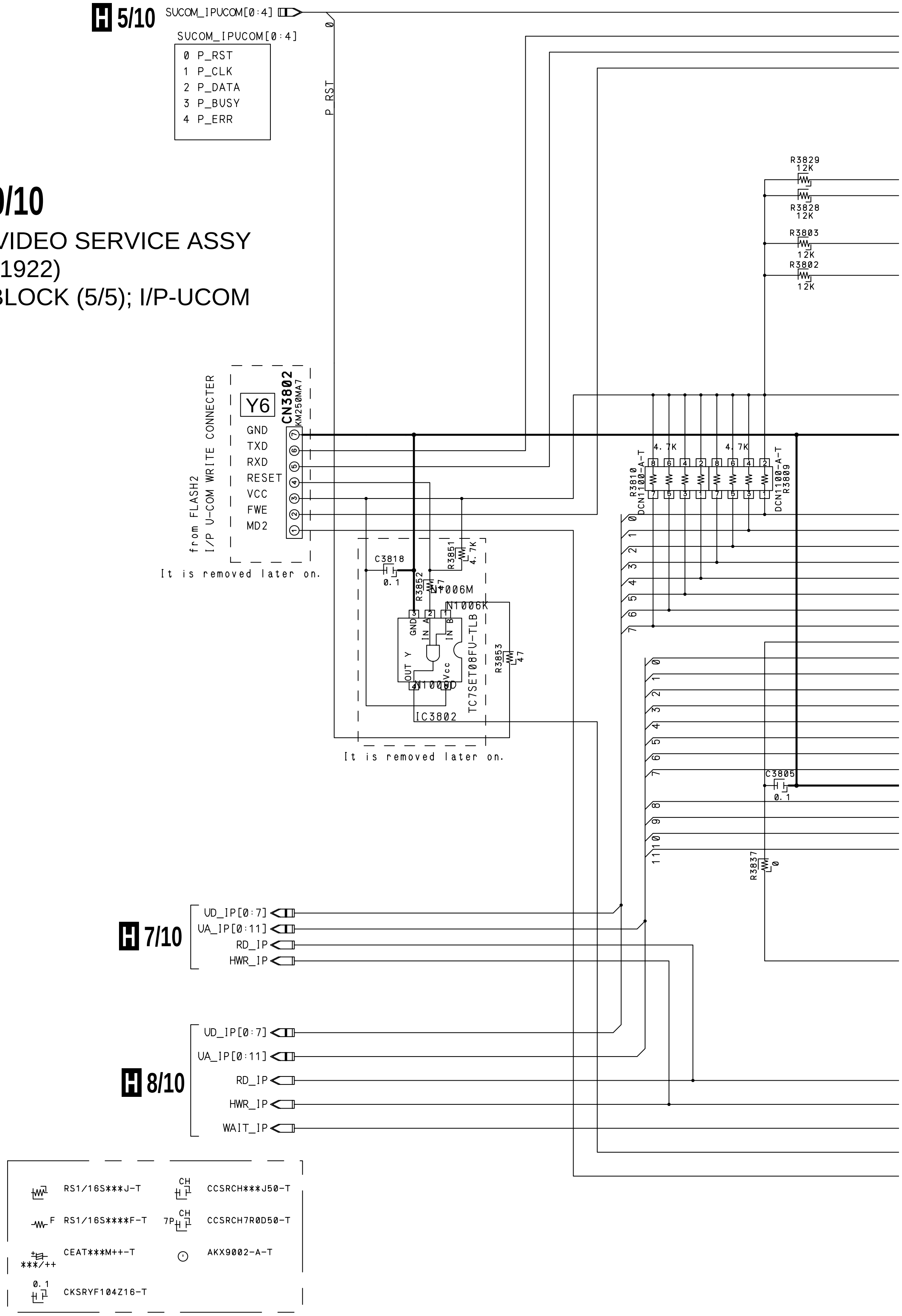
B-Y :B-Y SIGNAL ROUTE

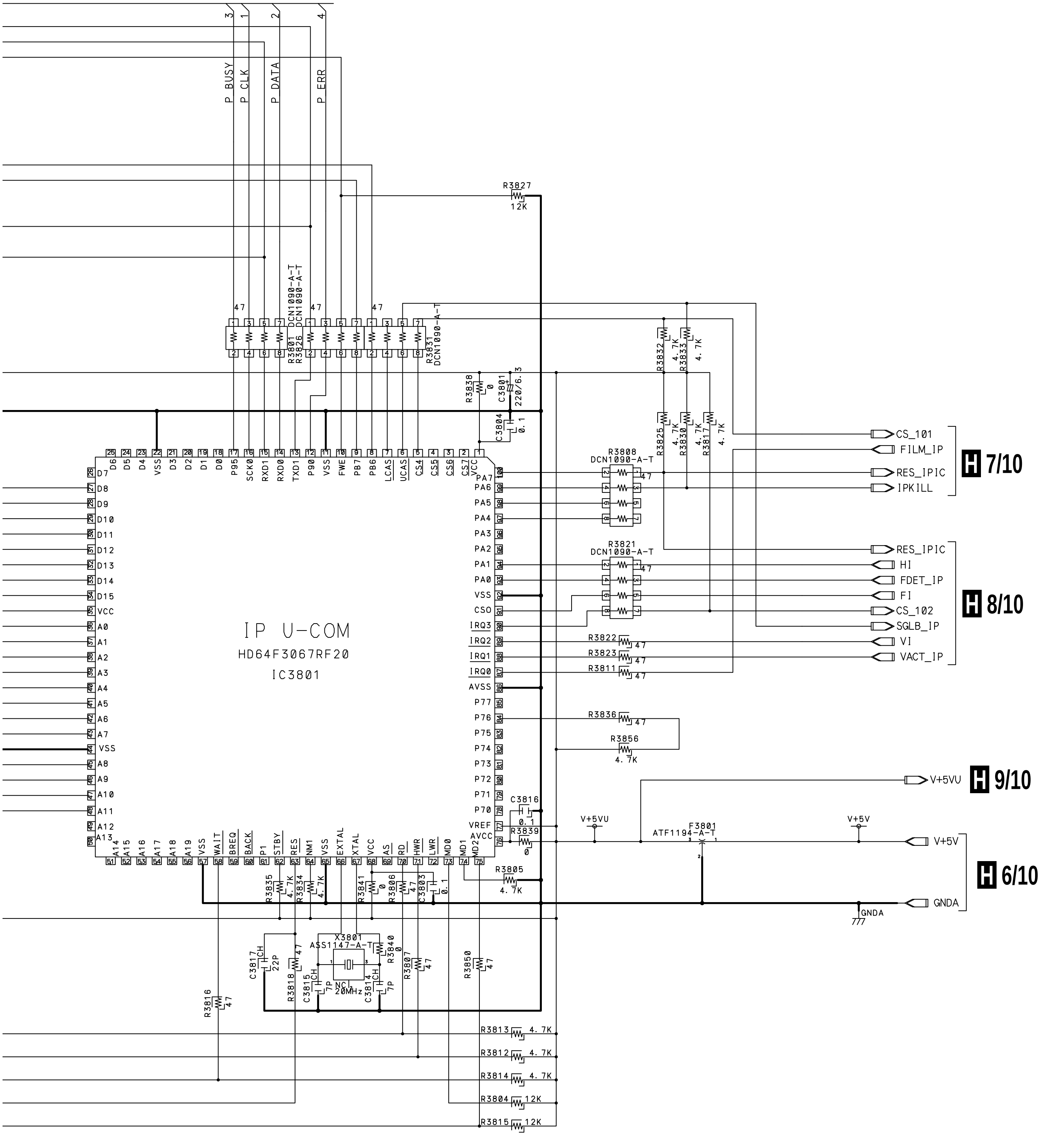
R-Y :R-Y SIGNAL ROUTE

3.26 SUB VIDEO SERVICE ASSY (10/10)

H 10/10

SUB VIDEO SERVICE ASSY
(AWV1922)
- I/P BLOCK (5/5); I/P-UCOM


H 5/10
SUCOM_IPUCOM[0:4]
SUCOM_IPUCOM[0:4]
0 P_RST
1 P_CLK
2 P_DATA
3 P_BUSY
4 P_ERR
0
P_RST
R3829 12K
R3828 12K
R3803 12K
R3802 12K
from FLASH2
I/P U-COM WRITE CONNECTER
Y6
CN3802
KM250MA7
GND
TXD
RXD
RESET
VCC
FWE
MD2
It is removed later on.
C3818 0.1
R3852 47
R3851 4.7K
NT006M
NT006K
GND
IN A
IN B
OUT Y
Vcc
NT009D
TC7SET08FU-TLB
R3853 47
IC3802
It is removed later on.
4.7K
4.7K
R3810
DCN1100-A-T
DCN1100-A-T
R3809
0 1 2 3 4 5 6 7
0 1 2 3 4 5 6 7 8 9 10 11
C3805 0.1
R3837 0
H 7/10
UD_IP[0:7]
UA_IP[0:11]
RD_IP
HWR_IP
H 8/10
UD_IP[0:7]
UA_IP[0:11]
RD_IP
HWR_IP
WAIT_IP
RS1/16S***J-T
F RS1/16S****F-T
CEAT***M++-T
***/++
0.1 CKSRYF104Z16-T
CH CCSRCH***J50-T
7P CH CCSRCH7R0D50-T
AKX9002-A-T

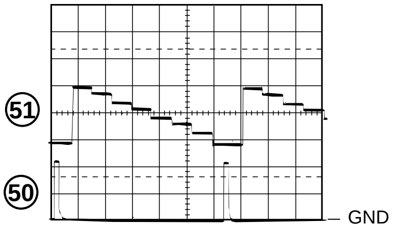

P BUSY
P CLK
P DATA
P ERR
R3827
12K
R3801 DCN1090-A-T
R3826 DCN1090-A-T
R3831 DCN1090-A-T
47
R3838
0
C3801
220/6.3
C3804
0.1
R3832
R3833
R3825
R3830
R3817
4.7K
R3808
DCN1090-A-T
R3821
DCN1090-A-T
R3822
R3823
R3811
R3836
R3856
C3816
R3839
R3805
IP U-COM
HD64F3067RF20
IC3801
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
VCC
VSS
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
A19
WAIT
BREQ
BACK
P1
STBY
RES
NM1
EXTAL
XTAL
AS
RD
HWR
LWR
MD0
MD1
MD2
P95
SCK0
RXD1
RXD0
TXD1
P90
FWE
PB7
PB6
LCAS
UCAS
CS4
CS5
CS6
CS7
PA7
PA6
PA5
PA4
PA3
PA2
PA1
PA0
CS0
IRQ3
IRQ2
IRQ1
IRQ0
AVSS
P77
P76
P75
P74
P73
P72
P71
P70
VREF
AVCC
CS_101
FILM_IP
RES_IPIC
IPKILL
H 7/10
RES_IPIC
HI
FDET_IP
FI
CS_102
SGLB_IP
VI
VACT_IP
H 8/10
V+5VU
H 9/10
V+5VU
V+5V
F3801
ATF1194-A-T
V+5V
GNDA
GNDA
H 6/10
R3835
R3834
R3841
R3806
C3803
X3801
ASS1147-A-T
R3840
NC
20MHz
C3817
22P
R3818
C3815
7P
C3814
R3807
R3850
R3816
R3813
R3812
R3814
R3804
R3815
12K

H 6/10, 9/10

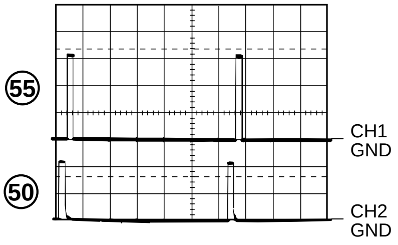
SUB VIDEO SERVICE ASSY (6/10 and 9/10)

Input signal
Video signal : EIA full field color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

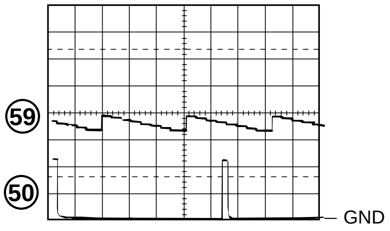
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(51) **Q3204 Base (Y2)**
V: 0.5V/div. H: 10µsec/div.



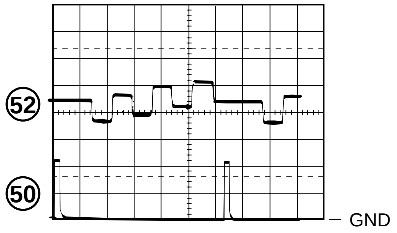
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(55) **Foot of R3235 (102CLP)**
V: 1V/div. H: 10µsec/div.



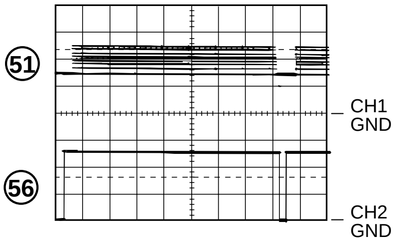
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(59) **Q3615 Emitter (DY1)**
V: 1V/div. H: 10µsec/div.



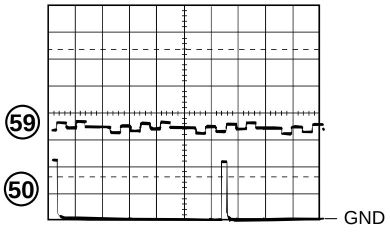
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(52) **Q3205 Base (B-Y2)**
V: 0.5V/div. H: 10µsec/div.



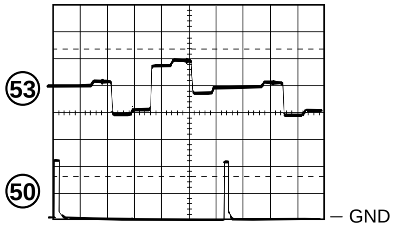
(51) **Q3204 Base (Y2)**
V: 1V/div. H: 2msec/div.
(56) **IC3205-pins 3 and 11 (IPVS)**
V: 2V/div. H: 2msec/div.



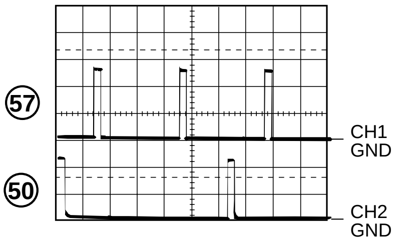
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(60) **Q3609 Emitter (DB_Y1)**
V: 1V/div. H: 10µsec/div.



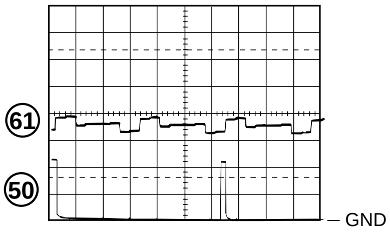
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(53) **Q3206 Base (R-Y2)**
V: 0.5V/div. H: 10µsec/div.



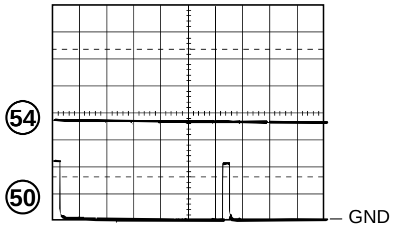
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(57) **Foot of R3286 (DHS)**
V: 2V/div. H: 10µsec/div.



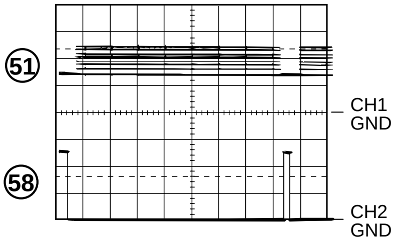
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(61) **Q3607 Emitter (DR_Y1)**
V: 1V/div. H: 10µsec/div.

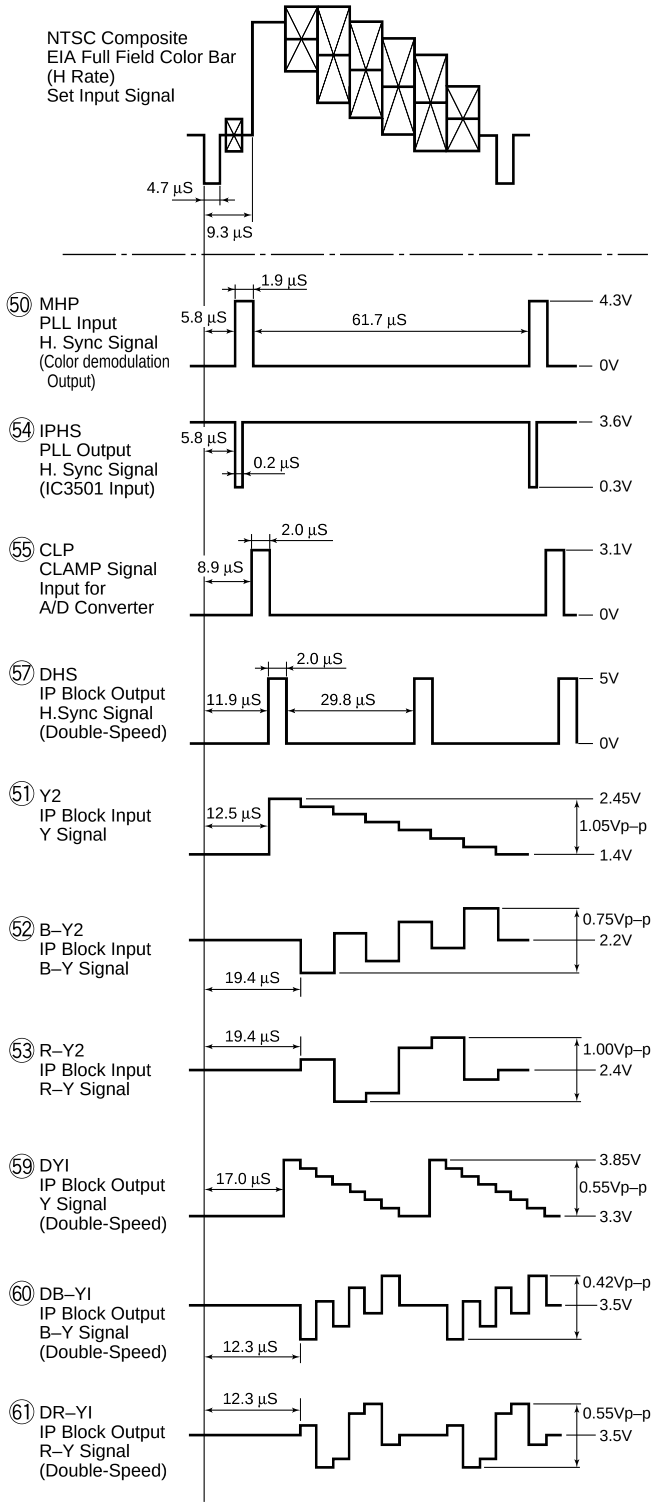


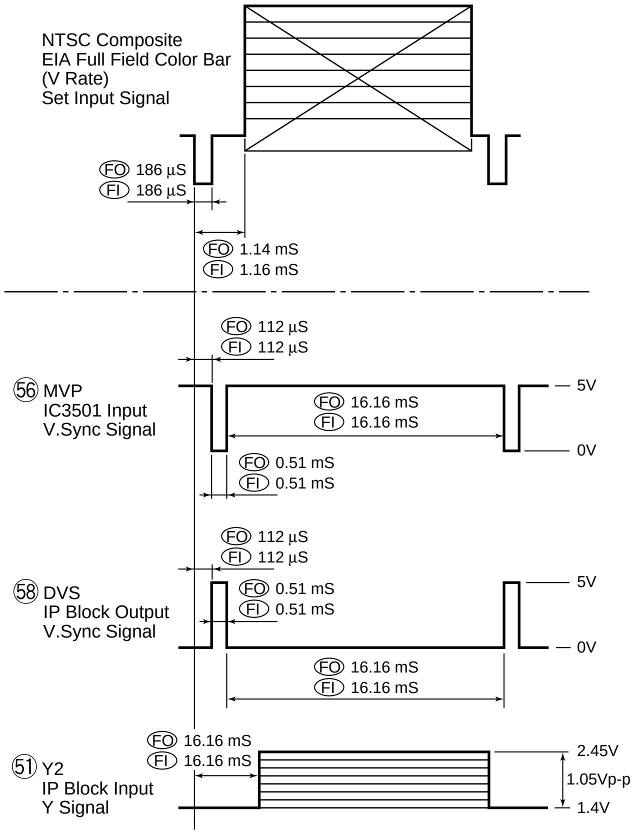
㊿ **Foot of R3283 (MHP)**
V: 2V/div. H: 10µsec/div.
(54) **Foot of R3256 (IPHS)**
V: 1V/div. H: 10µsec/div.



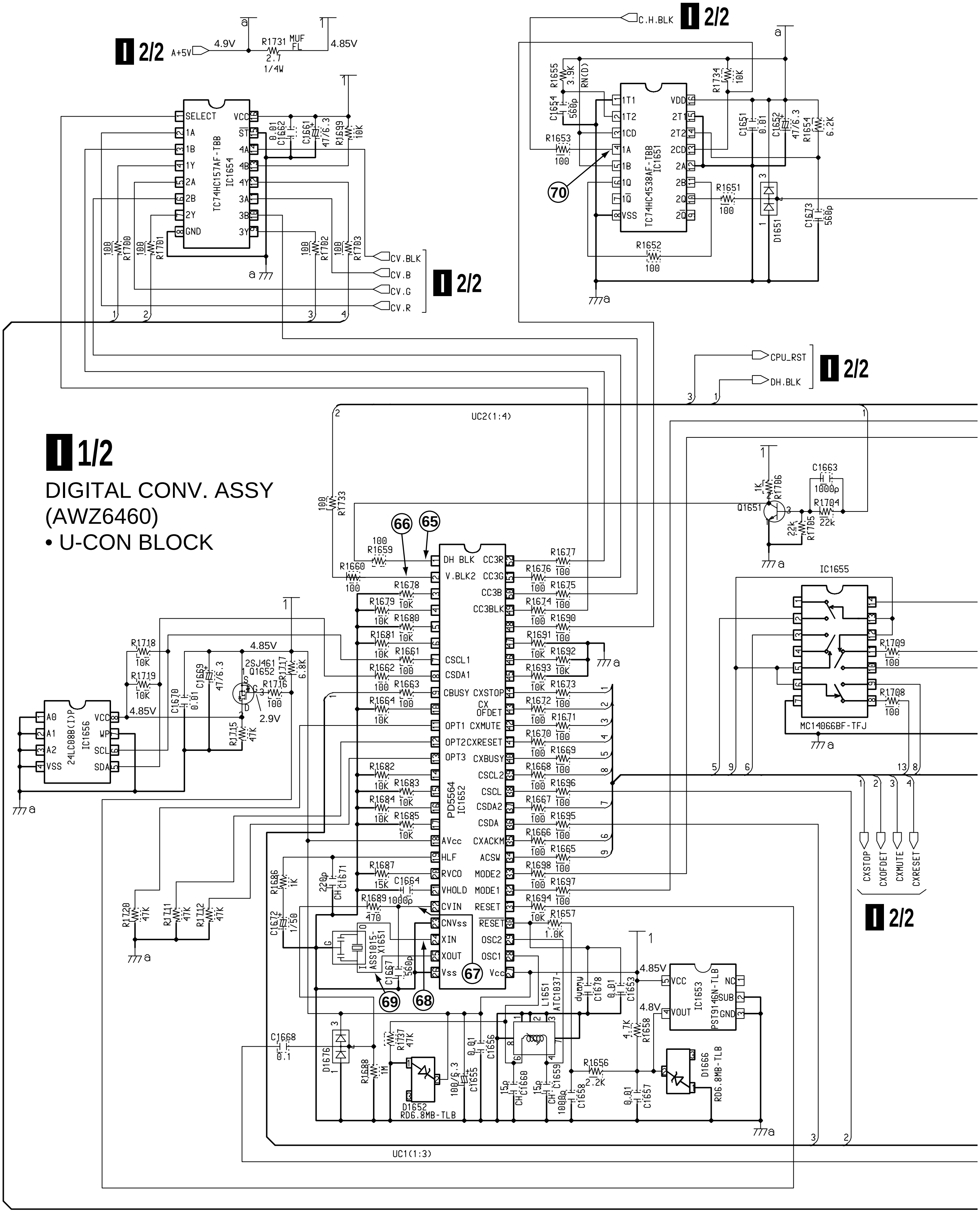
(51) **Q3204 Base (Y2)**
V: 1V/div. H: 2msec/div.
(58) **Foot of R3284 (DVS)**
V: 2V/div. H: 2msec/div.



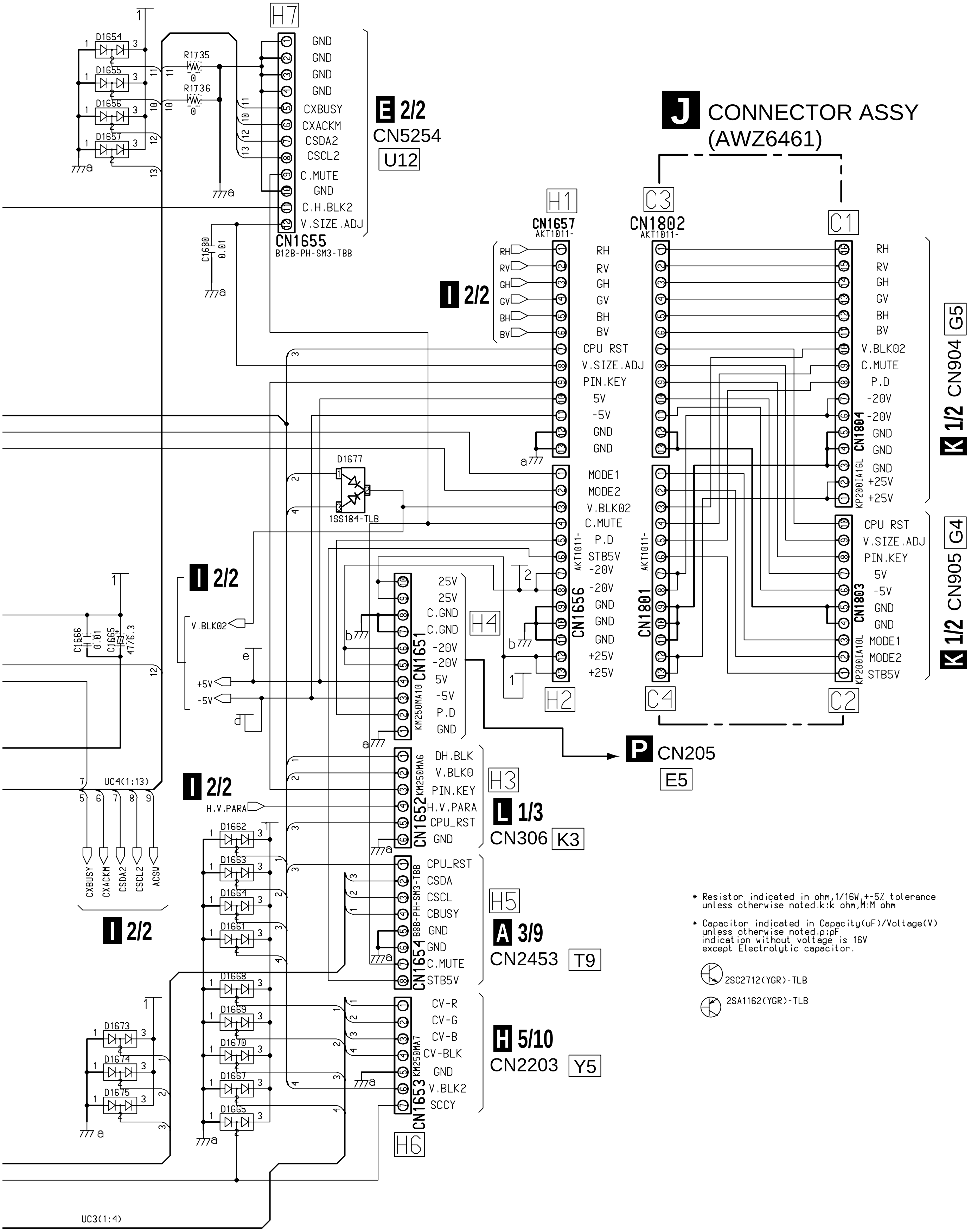

NTSC Composite
EIA Full Field Color Bar
(H Rate)
Set Input Signal
4.7 µS
9.3 µS
㊿ MHP
PLL Input
H. Sync Signal
(Color demodulation Output)
1.9 µS
5.8 µS
61.7 µS
4.3V
0V
(54) IPHS
PLL Output
H. Sync Signal
(IC3501 Input)
5.8 µS
0.2 µS
3.6V
0.3V
(55) CLP
CLAMP Signal
Input for
A/D Converter
2.0 µS
8.9 µS
3.1V
0V
(57) DHS
IP Block Output
H.Sync Signal
(Double-Speed)
2.0 µS
11.9 µS
29.8 µS
5V
0V
(51) Y2
IP Block Input
Y Signal
12.5 µS
2.45V
1.05Vp–p
1.4V
(52) B–Y2
IP Block Input
B–Y Signal
19.4 µS
0.75Vp–p
2.2V
(53) R–Y2
IP Block Input
R–Y Signal
19.4 µS
1.00Vp–p
2.4V
(59) DYI
IP Block Output
Y Signal
(Double-Speed)
17.0 µS
3.85V
0.55Vp–p
3.3V
(60) DB–YI
IP Block Output
B–Y Signal
(Double-Speed)
12.3 µS
0.42Vp–p
3.5V
(61) DR–YI
IP Block Output
R–Y Signal
(Double-Speed)
12.3 µS
0.55Vp–p
3.5V


NTSC Composite
EIA Full Field Color Bar
(V Rate)
Set Input Signal
FO 186 µS
FI 186 µS
FO 1.14 mS
FI 1.16 mS
FO 112 µS
FI 112 µS
(56) MVP
IC3501 Input
V.Sync Signal
FO 16.16 mS
FI 16.16 mS
FO 0.51 mS
FI 0.51 mS
5V
0V
FO 112 µS
FI 112 µS
(58) DVS
IP Block Output
V.Sync Signal
FO 0.51 mS
FI 0.51 mS
FO 16.16 mS
FI 16.16 mS
5V
0V
FO 16.16 mS
FI 16.16 mS
(51) Y2
IP Block Input
Y Signal
2.45V
1.05Vp-p
1.4V

3.27 DIGITAL CONV. (1/2) and CONNECTOR ASSYS


I 1/2
DIGITAL CONV. ASSY
(AWZ6460)
• U-CON BLOCK
I 2/2
A+5V
4.9V
R1731 2.7 1/4W
MUF FL
4.85V
TC74HC157AF-TBB
IC1654
SELECT
VCC
C1662 0.01
C1661 47/6.3
R1699 10K
R1700
R1701
R1702
R1703
CV.BLK
CV.B
CV.G
CV.R
C.H.BLK
TC74HC4538AF-TBB
IC1651
R1655 3.9K
RN(D)
R1734 10K
C1654 560p
R1653 100
C1651 0.01
C1652 47/6.3
R1654 6.2K
R1651 100
R1652 100
D1651
C1673 560p
CPU_RST
DH.BLK
UC2(1:4)
R1733 100
Q1651
R1706 1K
C1663 1000p
R1704 22k
R1705 22k
IC1655
MC14066BF-TFJ
R1709 100
R1708 100
PD5564
IC1652
DH BLK
V.BLK2
CC3R
CC3G
CC3B
CC3BLK
CSCL1
CSDA1
CBUSY
CXSTOP
CXOFDET
OPT1
CXMUTE
OPT2
CXRESET
OPT3
CXBUSY
CSCL2
CSCL
CSDA2
CSDA
AVcc
CXACKM
HLF
ACSW
RVCO
MODE2
VHOLD
MODE1
CVIN
RESET
CNVss
XIN
OSC2
XOUT
OSC1
Vss
Vcc
R1659 100
R1660 100
R1677 100
R1676 100
R1675 100
R1674 100
R1690 100
R1691 10K
R1692 10K
R1693 10K
R1673 100
R1672 100
R1671 100
R1670 100
R1669 100
R1668 100
R1696 100
R1667 100
R1695 100
R1666 100
R1665 100
R1698 100
R1697 100
R1694 10K
R1657 1.0K
R1678 10K
R1679 10K
R1680 10K
R1681 10K
R1661 100
R1662 100
R1663 100
R1664 10K
R1682 10K
R1683 10K
R1684 10K
R1685 10K
R1687 15K
C1664
R1689 470
C1671 220p
R1686 1K
C1672 1/50
X1651 ASS1015-
C1667 560p
R1718 10K
R1719 10K
2SJ461 Q1652
C1669 47/6.3
C1670 0.01
R1717 6.8K
R1716 100
R1715 47K
2.9V
24LC08B(I)P
IC1656
A0
A1
A2
VSS
VCC
WP
SCL
SDA
R1720 47K
R1711 47K
R1712 47K
CXSTOP
CXOFDET
CXMUTE
CXRESET
L1651 ATC1037-
C1678 dummy
C1653 0.01
PST9146N-TLB
IC1653
VCC
VOUT
NC
SUB
GND
4.8V
R1658 4.7K
C1668 0.1
D1676
R1688 1M
R1737 47K
D1652 RD6.8MB-TLB
C1655 100/6.3
C1656 0.01
C1660 15p
C1659 15p
C1658 1000p
R1656 2.2K
C1657 0.01
D1666 RD6.8MB-TLB
UC1(1:3)
65
66
67
68
69
70
a

J CONNECTOR ASSY
(AWZ6461)


H7
CN1655
B12B-PH-SM3-TBB
GND
GND
GND
GND
CXBUSY
CXACKM
CSDA2
CSCL2
C.MUTE
GND
C.H.BLK2
V.SIZE.ADJ
E 2/2
CN5254
U12
D1654
D1655
D1656
D1657
R1735
0
R1736
0
C1680
0.01
H1
CN1657
AKT1011-
C3
CN1802
AKT1011-
C1
I 2/2
RH
RV
GH
GV
BH
BV
CPU RST
V.SIZE.ADJ
PIN.KEY
5V
-5V
GND
GND
MODE1
MODE2
V.BLK02
C.MUTE
P.D
STB5V
-20V
-20V
GND
GND
GND
+25V
+25V
CN1656
AKT1011-
CN1801
AKT1011-
H2
C4
C2
CN1804
KP200IA16L
RH
RV
GH
GV
BH
BV
V.BLK02
C.MUTE
P.D
-20V
-20V
GND
GND
GND
+25V
+25V
K 1/2 CN904
G5
CN1803
KP200IA10L
CPU RST
V.SIZE.ADJ
PIN.KEY
5V
-5V
GND
GND
MODE1
MODE2
STB5V
K 1/2 CN905
G4
D1677
1SS184-TLB
I 2/2
V.BLK02
+5V
-5V
C1666
0.01
C1665
47/6.3
CN1651
KM250MA10
H4
25V
25V
C.GND
C.GND
-20V
-20V
5V
-5V
P.D
GND
P CN205
E5
UC4(1:13)
CXBUSY
CXACKM
CSDA2
CSCL2
ACSW
I 2/2
I 2/2
H.V.PARA
CN1652
KM250MA6
H3
DH.BLK
V.BLK0
PIN.KEY
H.V.PARA
CPU_RST
GND
L 1/3
CN306
K3
D1662
D1663
D1664
D1661
CN1654
B8B-PH-SM3-TBB
H5
CPU_RST
CSDA
CSCL
CBUSY
GND
GND
C.MUTE
STB5V
A 3/9
CN2453
T9
D1668
D1669
D1670
D1667
D1665
D1673
D1674
D1675
CN1653
KM250MA7
CV-R
CV-G
CV-B
CV-BLK
GND
V.BLK2
SCCY
H 5/10
CN2203
Y5
H6
UC3(1:4)

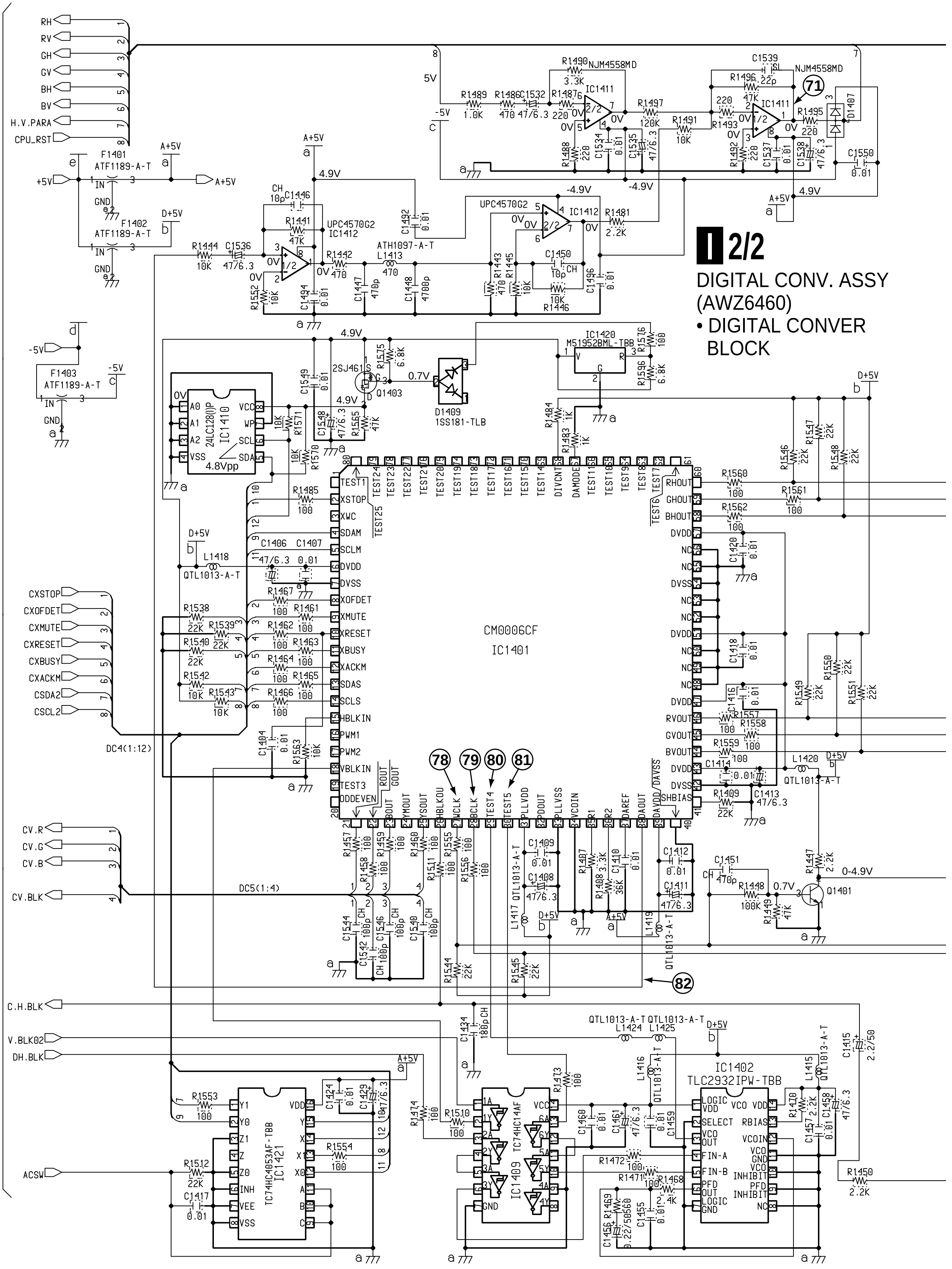
* Resistor indicated in ohm,1/16W,+-5% tolerance
unless otherwise noted.k:k ohm,M:M ohm

* Capacitor indicated in Capacity(uF)/Voltage(V)
unless otherwise noted.p:pF
indication without voltage is 16V
except Electrolytic capacitor.

2SC2712(YGR)-TLB

2SA1162(YGR)-TLB

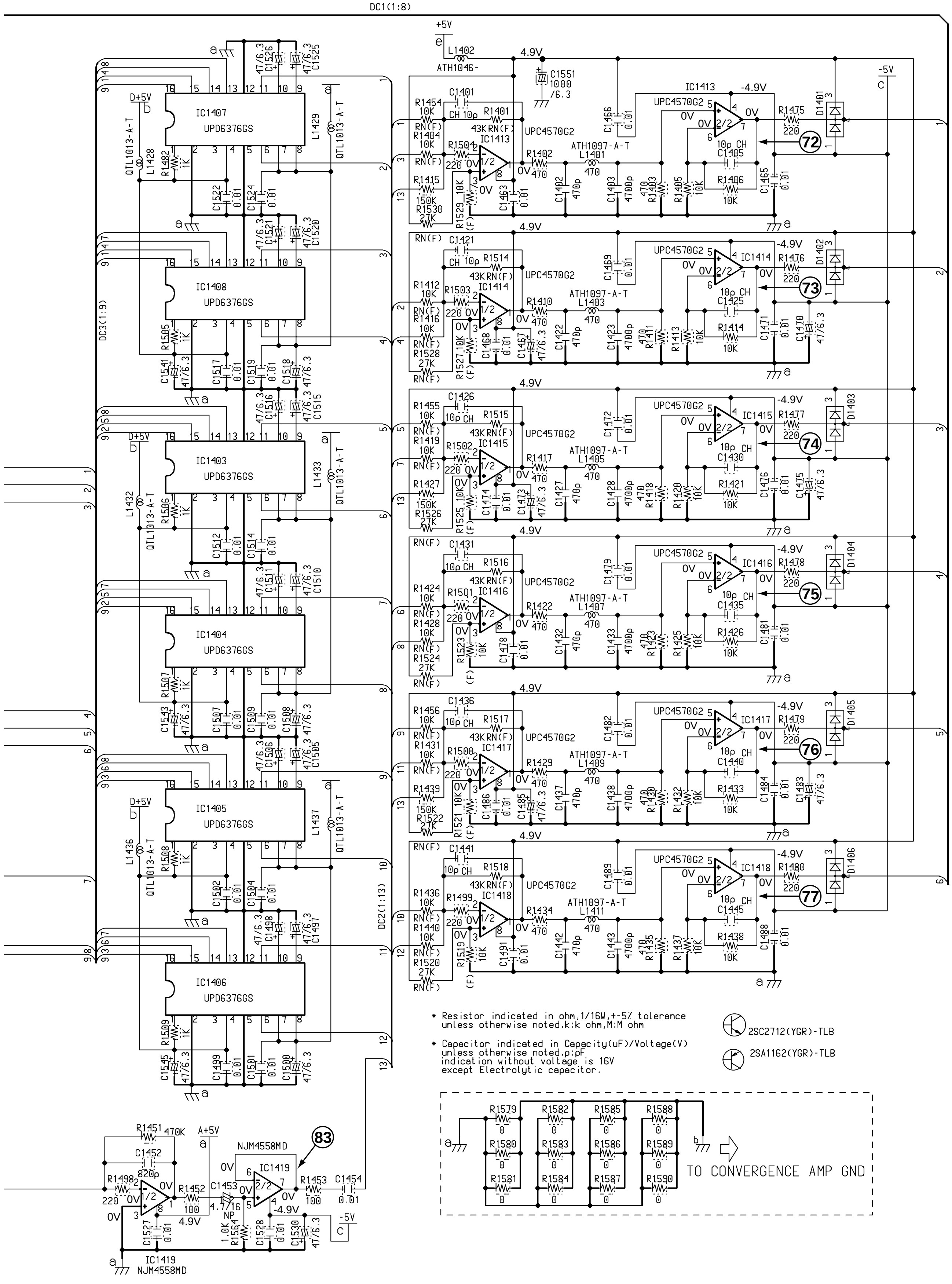
3.28 DIGITAL CONV. ASSY (2/2)


RH
RV
GH
GV
BH
BV
H.V.PARA
CPU_RST
+5V
F1401
ATF1189-A-T
A+5V
F1402
D+5V
-5V
F1403
NJM4558MD
IC1411
R1490
3.3K
C1539
22p
D1407
UPC4570G2
IC1412
ATH1097-A-T
L1413
IC1410
24LC128()P
4.8Vpp
2SJ461
Q1403
D1409
1SS181-TLB
IC1420
M51952BML-TBB
CM0006CF
IC1401
DC4(1:12)
CXSTOP
CXOFDET
CXMUTE
CXRESET
CXBUSY
CXACKM
CSDA2
CSCL2
CV.R
CV.G
CV.B
CV.BLK
DC5(1:4)
Q1401
0-4.9V
C.H.BLK
V.BLK02
DH.BLK
ACSW
IC1421
TC74HC4053AF-TBB
IC1409
TC74HC14AF
IC1402
TLC2932IPW-TBB
QTL1013-A-T
L1424
L1425
L1420
R1450
2.2K
71
78
79
80
81
82

I 2/2

DIGITAL CONV. ASSY
(AWZ6460)
- DIGITAL CONVER
  BLOCK

I 1/2


A
B
C
D
DC1(1:8)
DC3(1:9)
DC2(1:13)
+5V
D+5V
A+5V
-5V
4.9V
-4.9V
0V
L1402
ATH1046-
C1551
1000
/6.3
IC1407
IC1408
IC1403
IC1404
IC1405
IC1406
UPD6376GS
L1428
L1429
L1432
L1433
L1436
L1437
QTL1013-A-T
R1482
R1505
R1506
R1507
R1508
R1509
1K
C1526
C1525
C1522
C1524
C1521
C1520
C1541
C1517
C1519
C1518
C1516
C1515
C1512
C1514
C1511
C1510
C1543
C1507
C1509
C1508
C1506
C1505
C1502
C1504
C1498
C1497
C1545
C1499
C1501
C1500
47/6.3
0.01
IC1413
IC1414
IC1415
IC1416
IC1417
IC1418
UPC4570G2
R1454
R1404
R1415
R1530
R1401
R1501
R1402
R1529
R1403
R1405
R1406
R1475
10K
150K
27K
43KRN(F)
RN(F)
220
470
C1401
CH 10p
C1405
10p CH
C1463
C1402
C1403
C1466
C1465
470p
4700p
ATH1097-A-T
L1401
L1403
L1405
L1407
L1409
L1411
D1401
D1402
D1403
D1404
D1405
D1406
72
73
74
75
76
77
83
R1412
R1416
R1528
R1503
R1514
R1410
R1527
R1411
R1413
R1414
R1476
C1421
C1425
C1468
C1467
C1422
C1423
C1469
C1471
C1470
R1455
R1419
R1427
R1526
R1502
R1515
R1417
R1525
R1418
R1420
R1421
R1477
C1426
C1430
C1474
C1473
C1427
C1428
C1472
C1476
C1475
R1424
R1428
R1524
R1516
R1422
R1523
R1423
R1425
R1426
R1478
C1431
C1435
C1478
C1432
C1433
C1479
C1481
R1456
R1431
R1439
R1522
R1500
R1517
R1429
R1521
R1430
R1432
R1433
R1479
C1436
C1440
C1486
C1485
C1437
C1438
C1482
C1484
C1483
R1436
R1440
R1520
R1499
R1518
R1434
R1519
R1435
R1437
R1438
R1480
C1441
C1445
C1491
C1442
C1443
C1489
C1488
R1451
470K
C1452
820p
R1498
R1452
100
C1453
4.7/16
NP
R1564
1.0K
C1527
C1528
C1530
R1453
C1454
IC1419
NJM4558MD
R1579
R1580
R1581
R1582
R1583
R1584
R1585
R1586
R1587
R1588
R1589
R1590
0
TO CONVERGENCE AMP GND

- Resistor indicated in ohm,1/16W,+-5% tolerance unless otherwise noted.k:k ohm,M:M ohm
- Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted.p:pF indication without voltage is 16V except Electrolytic capacitor.

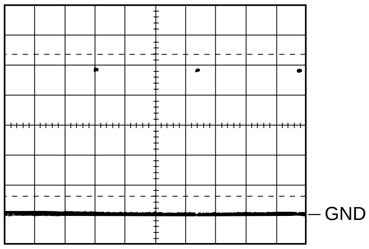
2SC2712(YGR)-TLB

2SA1162(YGR)-TLB

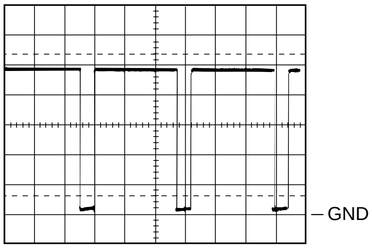
G DIGITAL CONV. ASSY

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

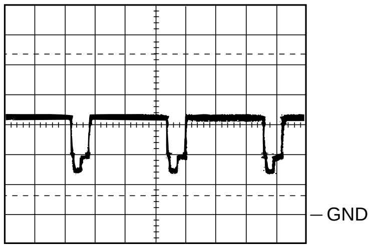
(65) **IC1652 pin 1 (DH. BLK input)**
V: 1V/div. H: 10µsec/div.



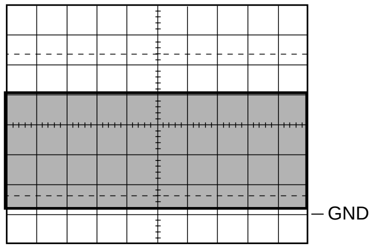
(66) **IC1652 pin 2 (V. BLKØ input)**
V: 1V/div. H: 5msec/div.



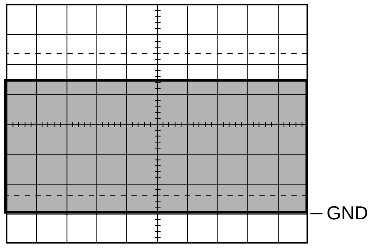
(67) **IC1652 pin 22 (Y input)**
V: 1V/div. H: 20µsec/div.



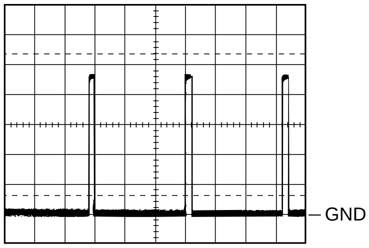
(68) **IC1652 pin 24 (X input)**
V: 1V/div. H: 100µsec/div.



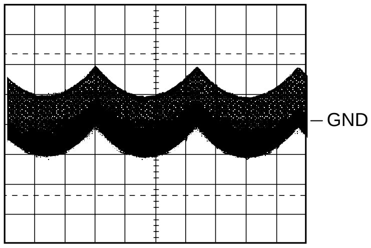
(69) **IC1652 pin 25 (X output)**
V: 1V/div. H: 100µsec/div.



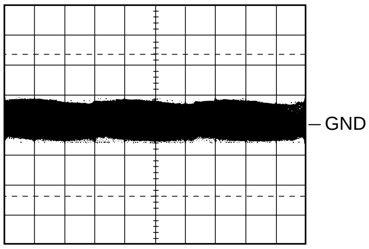
(70) **IC1651 pin 4 (CH. BLK input)**
V: 1V/div. H: 100µsec/div.



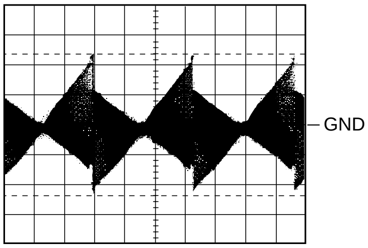
(71) **IC1411 pin 1 (DF output)**
V: 2V/div. H: 5msec/div.



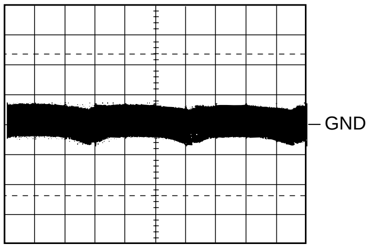
(72) **IC1413 pin 7 (RH output)**
V: 1V/div. H: 5msec/div.



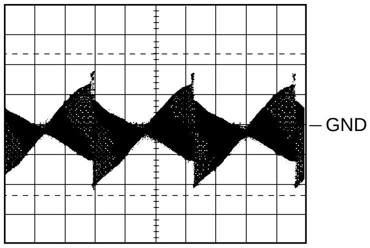
(73) **IC1414 pin 7 (RV output)**
V: 1V/div. H: 5msec/div.



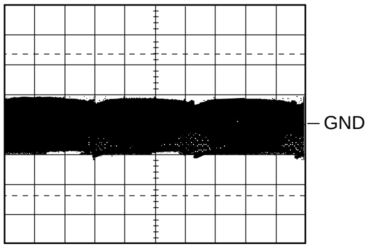
(74) **IC1415 pin 7 (GH output)**
V: 1V/div. H: 5msec/div.



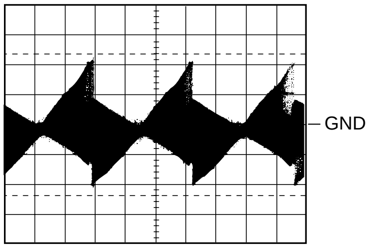
(75) **IC1416 pin 7 (GV output)**
V: 1V/div. H: 5msec/div.



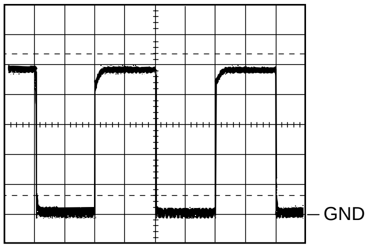
(76) **IC1417 pin 7 (BH output)**
V: 1V/div. H: 5msec/div.



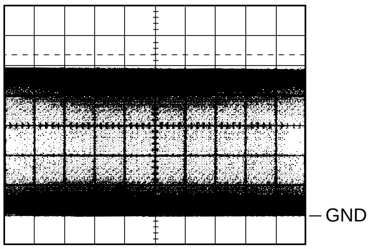
(77) **IC1418 pin 7 (BV output)**
V: 1V/div. H: 5msec/div.



(78) **IC1401 pin 27 (WCLK for D/A)**
V: 1V/div. H: 1µsec/div.

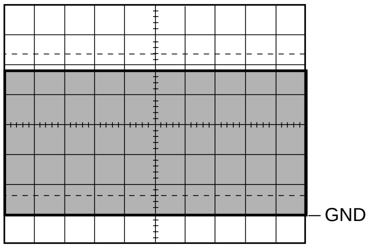


(79) **IC1401 pin 28 (BCLK for D/A)**
V: 1V/div. H: 1µsec/div.

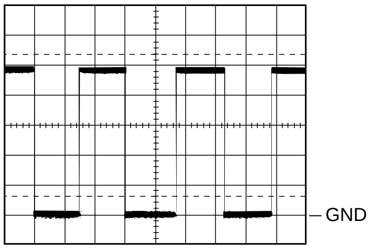


I 2/2 DIGITAL CONV. ASSY (2/2)

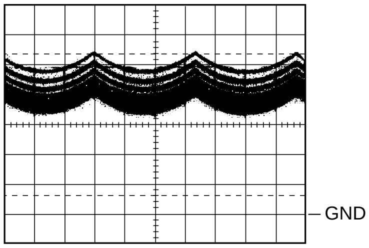
(80) **IC1401 pin 29 (PLL CLK (35MHz))**
V: 1V/div. H: 1µsec/div.



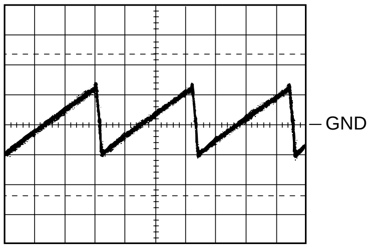
(81) **IC1401 pin 30**
(Output after PLL division)
V: 1V/div. H: 1µsec/div.



(82) **IC1401 pin 38 (DF output)**
V: 0.5V/div. H: 5msec/div.



(83) **IC1419 pin 7 (For H pulse cancel)**
V: 1V/div. H: 10µsec/div.



IC1401 (CM0006CF)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	4.9	21	0	41	1.2	61	4.9
2	4.85	22	0	42	0	62	4.9
3	0	23	0	43	4.9	63	4.9
4	4.8Vpp	24	0	44	4.9Vpp	64	4.9
5	4.8Vpp	25	0	45	4.9Vpp	65	4.9
6	4.9	26	4.6Vpp	46	4.9Vpp	66	4.9
7	0	27	4.8Vpp	47	4.9	67	0
8	4.85	28	4.8Vpp	48	0	68	4.8
9	4.8	29	4.8Vpp	49	0	69	4.9
10	4.8	30	4.8Vpp	50	0	70	4.9
11	4.8Vpp	31	4.9	51	4.9	71	4.9
12	4.8Vpp	32	0	52	0	72	4.9
13	4.8Vpp	33	0	53	0	73	4.9
14	4.8Vpp	34	0	54	0	74	4.9
15	0	35	1.2	55	0	75	4.9
16	2.4	36	0	56	0	76	4.9
17	2.4	37	3.2	57	4.9	77	4.9
18	4.9Vpp	38	1Vpp	58	4.9Vpp	78	4.9
19	4.9	39	4.9	59	4.9Vpp	79	4.9
20	4.9	40	0	60	4.9Vpp	80	4.9

IC1421
(TC74HC4053AF)

Pin No.	Voltage (V)
1	4.8Vpp
2	4.8Vpp
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	4.8Vpp
13	4.8Vpp
14	4.8Vpp
15	4.8Vpp
16	4.9

IC1403,IC1405,
IC1407
(UPD6376GS)

Pin No.	Voltage (V)
1	4.85
2	0
3	0
4	4.9
5	0
6	1.6
7	4.9
8	4.9
9	2.1
10	2.1
11	1.6
12	0
13	2.4
14	2.1
15	2.2
16	2.1

IC1409
(TC74HC14AF)

Pin No.	Voltage (V)
1	4.8Vpp
2	4.8Vpp
3	4.8Vpp
4	4.9Vpp
5	4.9Vpp
6	4.9Vpp
7	0
8	0
9	0
10	4.9Vpp
11	4.9Vpp
12	4.9Vpp
13	4.9Vpp
14	4.9

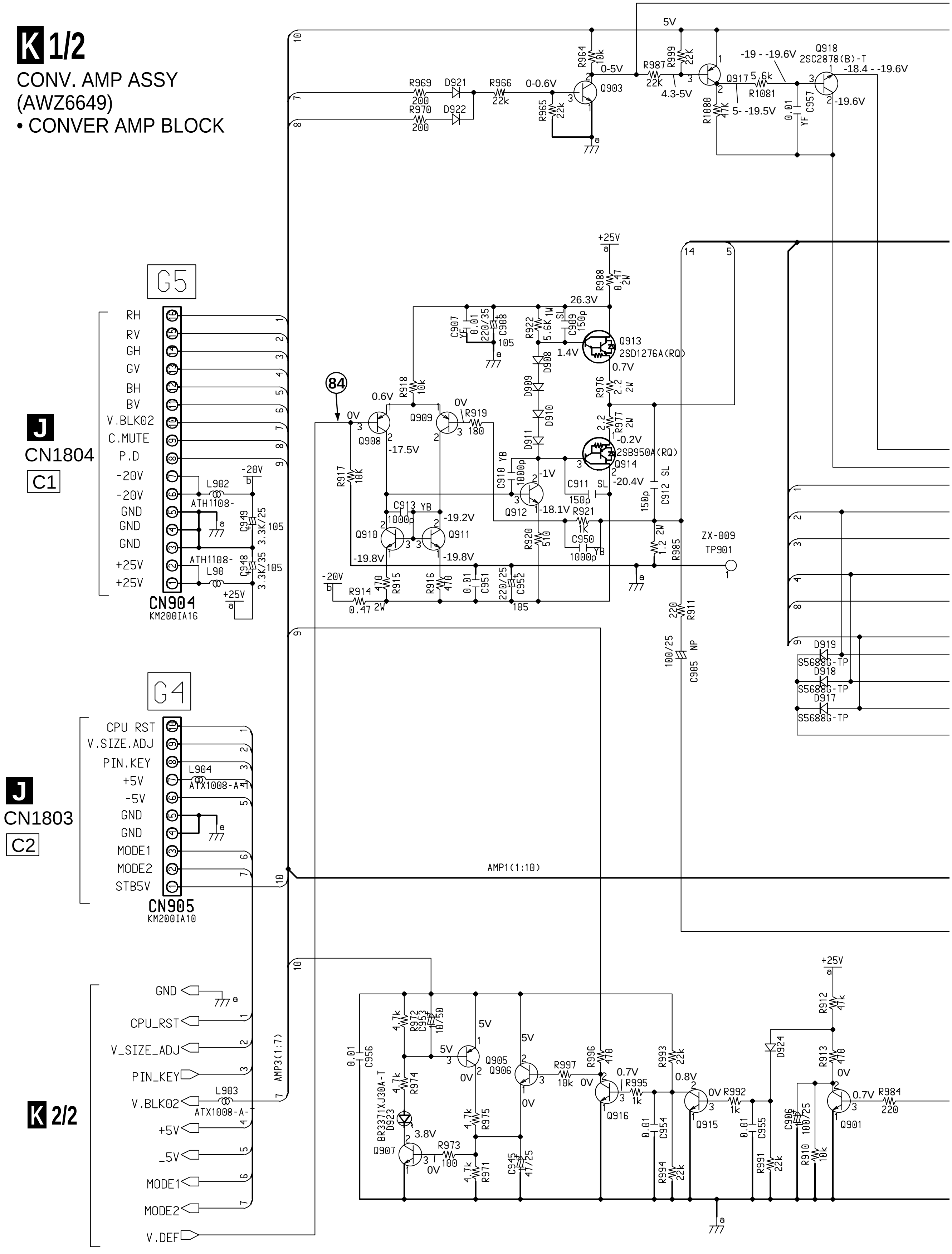
IC1402
(TLC2932IPW)

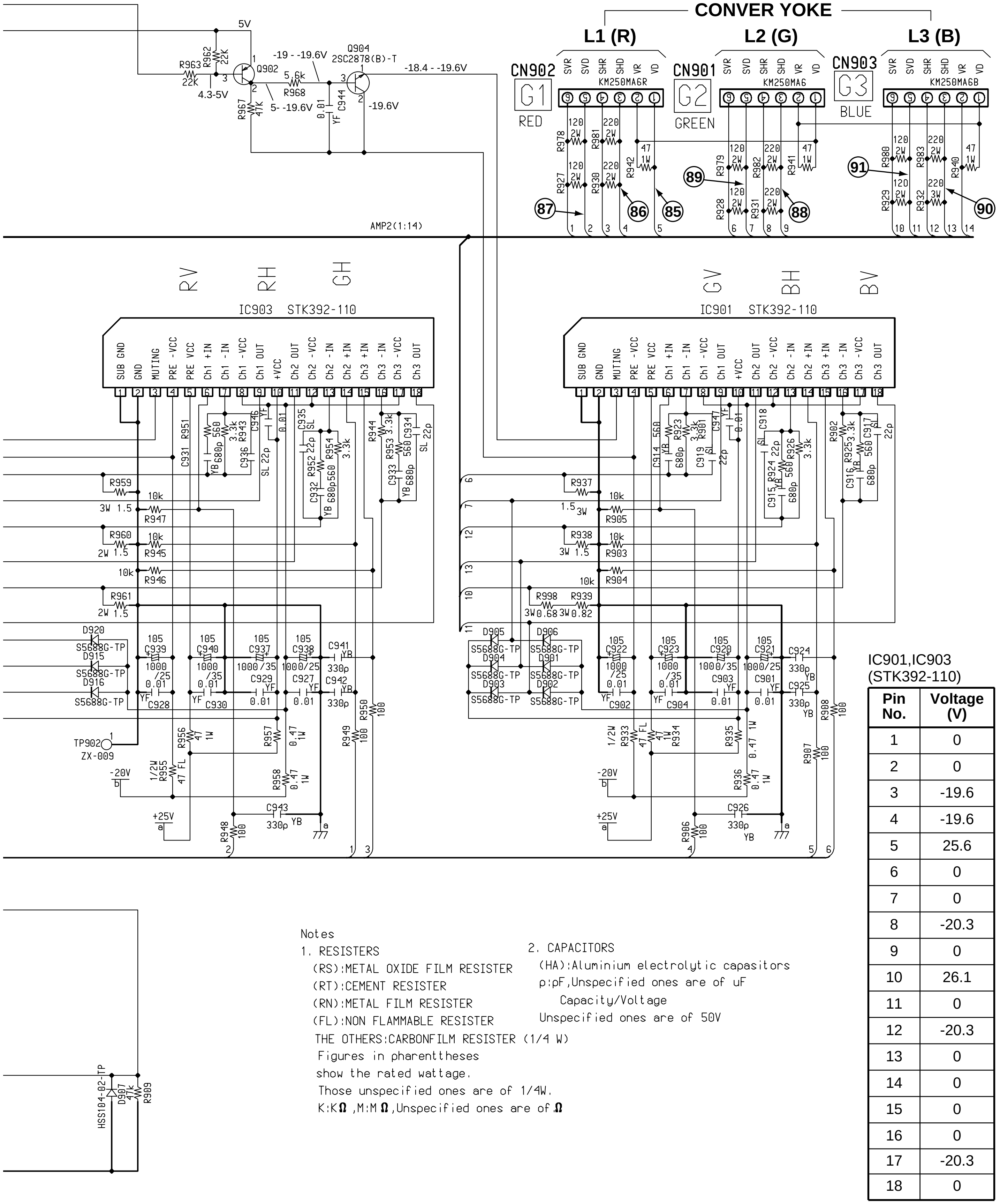
Pin No.	Voltage (V)
1	4.9
2	0
3	4.8Vpp
4	4.9Vpp
5	4.9Vpp
6	1.8
7	0
8	0
9	0
10	0
11	0
12	1.8
13	3.6
14	4.9

3.29 CONV. AMP ASSY (1/2)

K 1/2

CONV. AMP ASSY
(AWZ6649)
- CONVER AMP BLOCK


A
B
C
D
G5
J
CN1804
C1
RH
RV
GH
GV
BH
BV
V.BLK02
C.MUTE
P.D
-20V
-20V
GND
GND
GND
+25V
+25V
CN904
KM200IA16
L902
ATH1108-
L90
ATH1108-
C949
3.3K/25
105
C948
3.3K/35
105
-20V
+25V
G4
J
CN1803
C2
CPU RST
V.SIZE.ADJ
PIN.KEY
+5V
-5V
GND
GND
MODE1
MODE2
STB5V
CN905
KM200IA10
L904
ATX1008-A-
AMP1(1:10)
AMP3(1:7)
K 2/2
GND
CPU_RST
V_SIZE_ADJ
PIN_KEY
V.BLK02
L903
ATX1008-A-
+5V
_5V
MODE1
MODE2
V.DEF
5V
R969 200
D921
R970 200
D922
R966 22k
0-0.6V
R964 10k
0-5V
Q903
R965 22k
R987 22k
R999 22k
4.3-5V
Q917
5.6k
R1081
R1080 47K
5- -19.5V
-19 - -19.6V
Q918
2SC2878(B)-T
-18.4 - -19.6V
0.01 C957 YF
-19.6V
+25V
R988 0.47 2W
26.3V
C907 YF 0.01
220/35 C908 105
R922 5.6K 1W
C909 SL 150p
Q913
2SD1276A(RQ)
1.4V
0.7V
D908
D909
D910
D911
R976 2.2 2W
R977 2.2 2W
-0.2V
2SB950A(RQ)
Q914
-20.4V
84
0.6V
R918 10k
0V
Q909
R919 180
0V
Q908
-17.5V
R917 10k
C910 YB 1000p
-1V
Q912
-18.1V
C911 SL 150p
R921 1K
C950 1000p YB
C912 SL 150p
R985 1.2 2W
ZX-009
TP901
C913 YB 1000p
-19.2V
Q910
Q911
-19.8V
-19.8V
R920 510
-20V
R914 0.47 2W
R915 470
R916 470
C951 0.01
C952 220/25 105
14
5
R911 220
C905 100/25 NP
D919 S5688G-TP
D918 S5688G-TP
D917 S5688G-TP
C956 0.01
R972 4.7k
C953 10/50
5V
Q905
Q906
5V
0V
R974 4.7k
BR3371XJ30A-T D923
3.8V
Q907
R973 100
0V
R975 4.7k
R971 4.7k
C945 47/25
0V
R997 10k
R996 470
0.7V
R995 1k
Q916
C954 0.01
R993 22k
R994 22k
0.8V
0V
R992 1k
Q915
C955 0.01
R991 22k
D924
+25V
R912 47k
R913 470
0V
C906 100/25
R910 10k
Q901
0.7V
R984 220


A
B
C
D
CONVER YOKE
L1 (R)
L2 (G)
L3 (B)
CN902
G1
RED
CN901
G2
GREEN
CN903
G3
BLUE
SVR SVD SHR SHD VR VD
KM250MA6R
KM250MA6
KM250MA6B
5V
Q902
Q904
2SC2878(B)-T
R962 22K
R963 22K
R967 47K
R968 5.6k
C944 0.01 YF
-19 - -19.6V
-18.4 - -19.6V
4.3-5V
5- -19.6V
-19.6V
AMP2(1:14)
R978 R927 R981 R930 R942
R979 R928 R982 R931 R941
R980 R929 R983 R932 R940
120 2W
220 2W
220 3W
47 1W
85
86
87
88
89
90
91
RV
RH
GH
GV
BH
BV
IC903 STK392-110
IC901 STK392-110
SUB GND
GND
MUTING
PRE -VCC
PRE VCC
Ch1 +IN
Ch1 -IN
Ch1 -VCC
Ch1 OUT
+VCC
Ch2 OUT
Ch2 -VCC
Ch2 -IN
Ch2 +IN
Ch3 +IN
Ch3 -IN
Ch3 -VCC
Ch3 OUT
R959 R947 R960 R945 R946 R961
R937 R905 R938 R903 R904 R998 R939
10k
3W 1.5
2W 1.5
3W 0.68
3W 0.82
D920 D915 D916
D905 D904 D903 D906 D901 D902
S5688G-TP
C939 C940 C937 C938 C941 C942
C928 C930 C929 C927 C943
C922 C923 C920 C921 C924 C925
C902 C904 C903 C901 C926
105
1000/25
1000/35
330p YB
0.01 YF
R956 R955 R957 R958 R948 R949 R950
R933 R934 R935 R936 R906 R907 R908
47 1W
0.47 1W
47 FL 1/2W
100
TP902
ZX-009
-20V
+25V
D907
HSS104-02-TP
R909 47K

Notes

1. RESISTERS
   (RS):METAL OXIDE FILM RESISTER
   (RT):CEMENT RESISTER
   (RN):METAL FILM RESISTER
   (FL):NON FLAMMABLE RESISTER
   THE OTHERS:CARBONFILM RESISTER (1/4 W)
   Figures in pharenttheses
   show the rated wattage.
   Those unspecified ones are of 1/4W.
   K:KΩ ,M:MΩ ,Unspecified ones are of Ω

2. CAPACITORS
   (HA):Aluminium electrolytic capasitors
   p:pF,Unspecified ones are of uF
   Capacity/Voltage
   Unspecified ones are of 50V

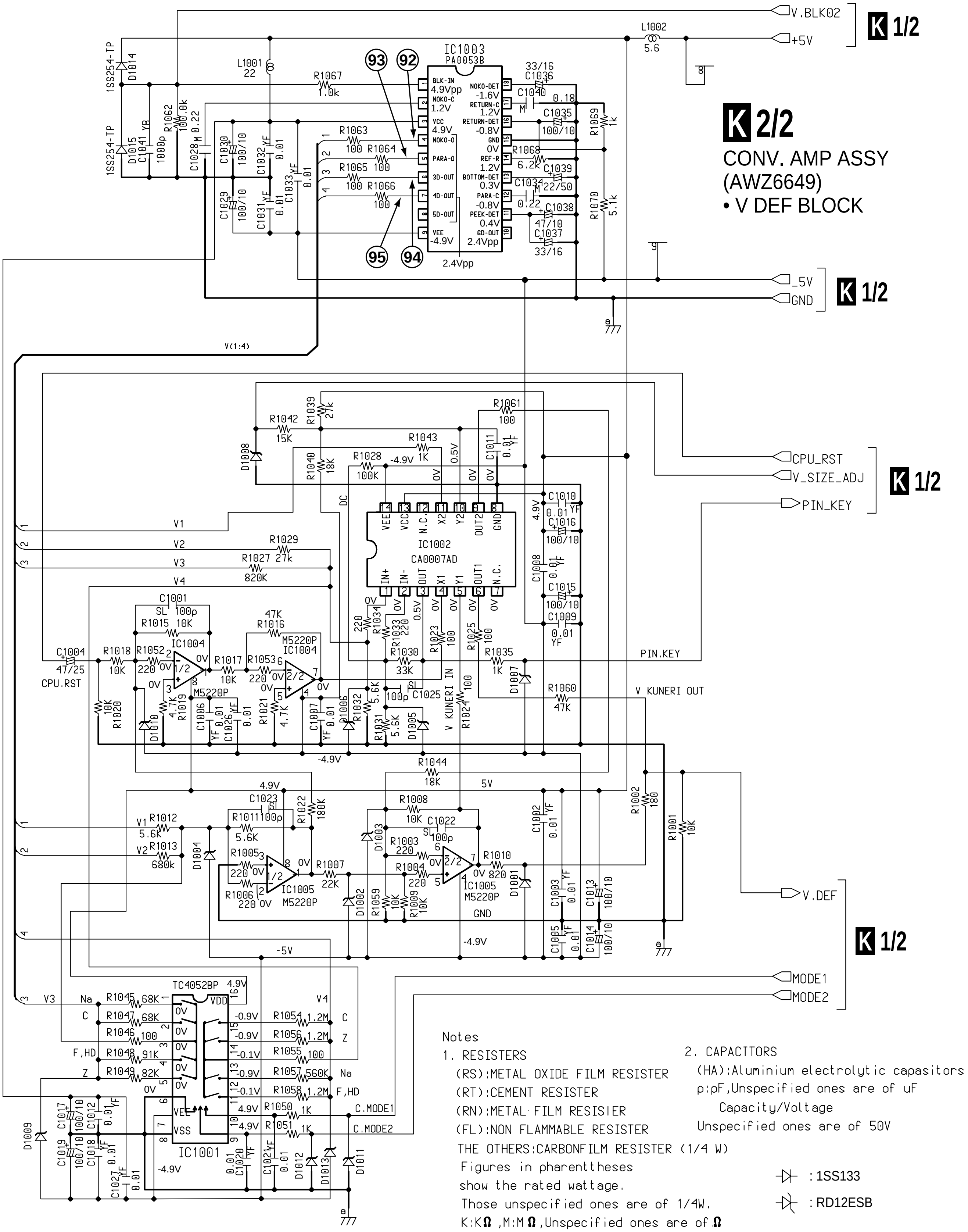
IC901,IC903
(STK392-110)

Pin No.	Voltage (V)
1	0
2	0
3	-19.6
4	-19.6
5	25.6
6	0
7	0
8	-20.3
9	0
10	26.1
11	0
12	-20.3
13	0
14	0
15	0
16	0
17	-20.3
18	0

3.30 CONV. AMP ASSY (2/2)

K 2/2

CONV. AMP ASSY
(AWZ6649)
• V DEF BLOCK


V.BLK02
+5V
K 1/2
L1002 5.6
L1001 22
IC1003 PA0053B
BLK-IN 4.9Vpp
NOKO-C 1.2V
VCC 4.9V
NOKO-O
PARA-O
3D-OUT
4D-OUT
5D-OUT
VEE -4.9V
NOKO-DET -1.6V
RETURN-C 1.2V
RETURN-DET -0.8V
GND 0V
REF-R 1.2V
BOTTOM-DET 0.3V
PARA-C -0.8V
PEEK-DET 0.4V
6D-OUT 2.4Vpp
2.4Vpp
93
92
95
94
R1067 1.0k
R1063 100
R1064 100
R1065 100
R1066 100
R1062 100.0k
R1068 6.2k
R1069 1k
R1070 5.1k
C1036 33/16
C1040 0.18 M
C1035 100/10
C1039 22/50
C1034 0.22 M
C1038 47/10
C1037 33/16
D1014 1SS254-TP
D1015 1SS254-TP
C1041 1000p YB
C1028 0.22 M
C1030 100/10
C1032 0.01 YF
C1033 0.01 YF
C1029 100/10
C1031 0.01 YF
_5V
GND
V(1:4)
CPU_RST
V_SIZE_ADJ
PIN_KEY
IC1002 CA0007AD
VEE VCC N.C. X2 Y2 OUT2 GND
IN+ IN- OUT X1 Y1 OUT1 N.C.
R1039 27k
R1042 15K
R1040 18K
R1043 1K
R1028 100K
R1061 100
C1011 0.01 YF
D1008
C1010 0.01 YF
C1016 100/10
C1008 0.01 YF
C1015 100/10
C1009 0.01 YF
R1029 27k
R1027 820K
V1
V2
V3
V4
C1001 SL 100p
R1015 10K
IC1004 M5220P
R1018 10K
R1052 220
R1017 10K
R1053 220
R1016 47K
C1004 47/25
CPU.RST
R1020 10K
R1019 4.7K
D1010
C1006 0.01 YF
C1026 0.01 YF
R1021 4.7K
C1007 0.01 YF
D1006
R1032 5.6K
R1031 5.6K
R1034 220
R1033 220
R1030 33K
C1025 100p SL
D1005
V KUNERI IN
R1023 100
R1025 100
R1024 100
R1035 1K
D1007
R1060 47K
PIN.KEY
V KUNERI OUT
-4.9V
R1044 18K
5V
4.9V
C1023 100p
R1011 5.6K
R1022 180K
R1012 5.6K
R1013 680k
D1004
R1005 220
R1006 220
IC1005 M5220P
R1007 22K
D1002
R1059 10K
R1009 10K
R1008 10K
C1022 SL 100p
D1003
R1003 220
R1004 220
R1010 820
D1001
C1002 0.01 YF
C1003 0.01 YF
C1013 100/10
C1005 0.01 YF
C1014 100/10
R1002 180
R1001 10K
V.DEF
GND
-4.9V
-5V
MODE1
MODE2
TC4052BP
IC1001
VDD
VEE
VSS
R1045 68K
R1047 68K
R1046 100
R1048 91K
R1049 82K
R1054 1.2M
R1056 1.2M
R1055 100
R1057 560K
R1058 1.2M
R1050 1K
R1051 1K
Na
C
Z
F,HD
C.MODE1
C.MODE2
D1009
C1017 100/10
C1012 0.01 YF
C1019 100/10
C1018 0.01 YF
C1027 0.01
C1020 0.01 YF
C1021 0.01 YF
D1012
D1013
D1011

Notes
1. RESISTERS
(RS):METAL OXIDE FILM RESISTER
(RT):CEMENT RESISTER
(RN):METAL FILM RESISIER
(FL):NON FLAMMABLE RESISTER
THE OTHERS:CARBONFILM RESISTER (1/4 W)
Figures in pharentheses
show the rated wattage.
Those unspecified ones are of 1/4W.
K:KΩ ,M:MΩ ,Unspecified ones are of Ω

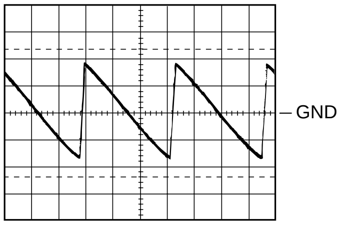
2. CAPACTTORS
(HA):Aluminium electrolytic capasitors
p:pF,Unspecified ones are of uF
Capacity/Voltage
Unspecified ones are of 50V

: 1SS133
: RD12ESB

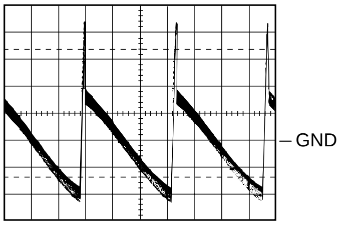
K CONV. AMP ASSY

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

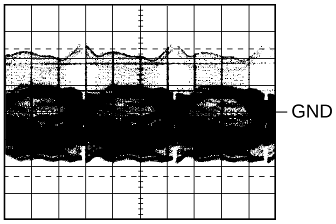
(84) **Q908 Base (V. DEF input)**
V: 0.5V/div. H: 5msec/div.



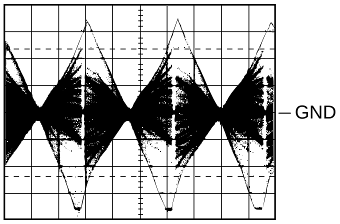
(85) **CN902 pin 1 (V. DEF output)**
V: 5V/div. H: 5msec/div.



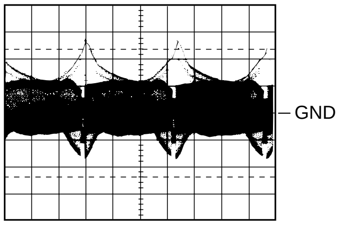
(86) **CN902 pin 3 (RH input)**
V: 5V/div. H: 5msec/div.



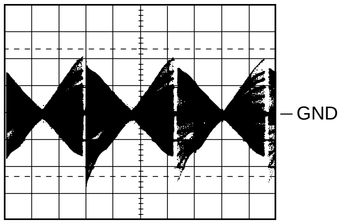
(87) **CN902 pin 5 (RV output)**
V: 5V/div. H: 5msec/div.



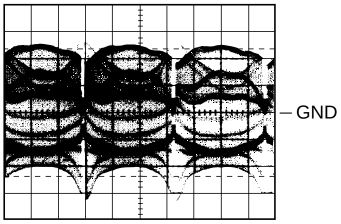
(88) **CN901 pin 3 (GH output)**
V: 5V/div. H: 5msec/div.



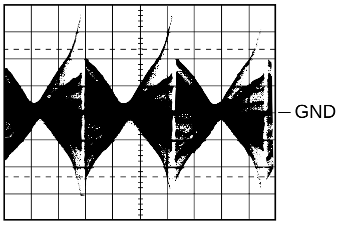
(89) **CN901 pin 5 (GV output)**
V: 5V/div. H: 5msec/div.



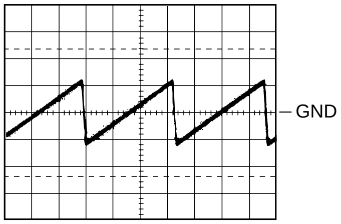
(90) **CN903 pin 3 (BH output)**
V: 5V/div. H: 5msec/div.



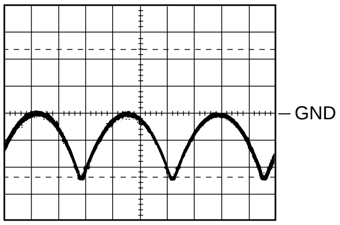
(91) **CN903 pin 5 (BV output)**
V: 5V/div. H: 5msec/div.



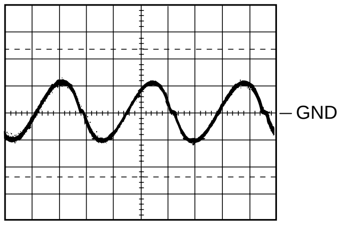
(92) **IC1003 pin 4 (V1 output)**
V: 1V/div. H: 5msec/div.



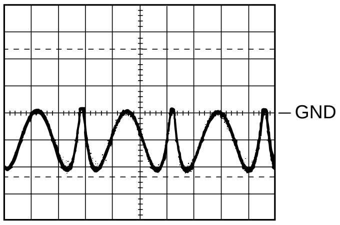
(93) **IC1003 pin 5 (V2 output)**
V: 1V/div. H: 5msec/div.



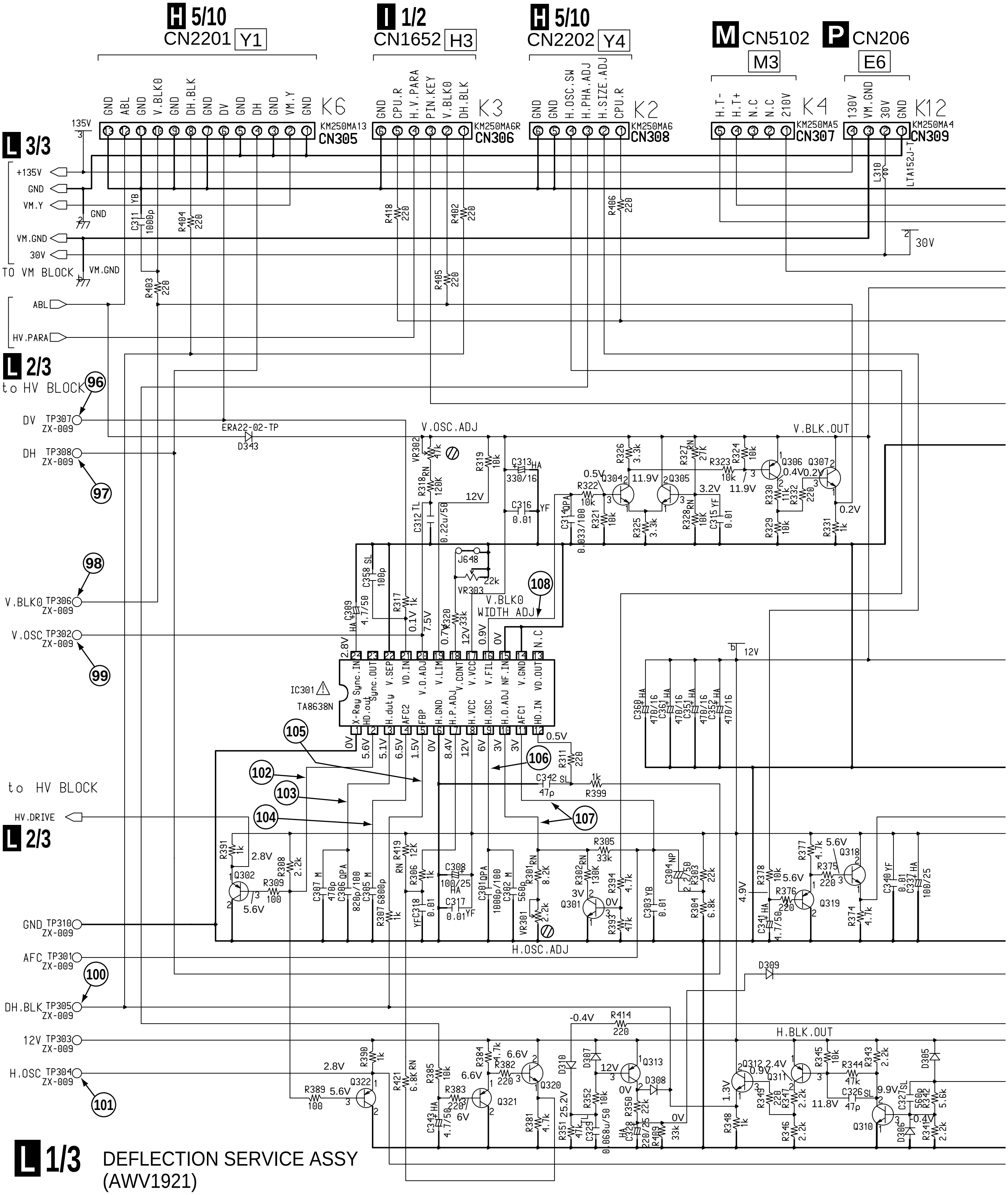
(94) **IC1003 pin 6 (V3 output)**
V: 1V/div. H: 5msec/div.



(95) **IC1003 pin 7 (V4 output)**
V: 1V/div. H: 5msec/div.



3.31 DEFLECTION SERVICE ASSY (1/3)

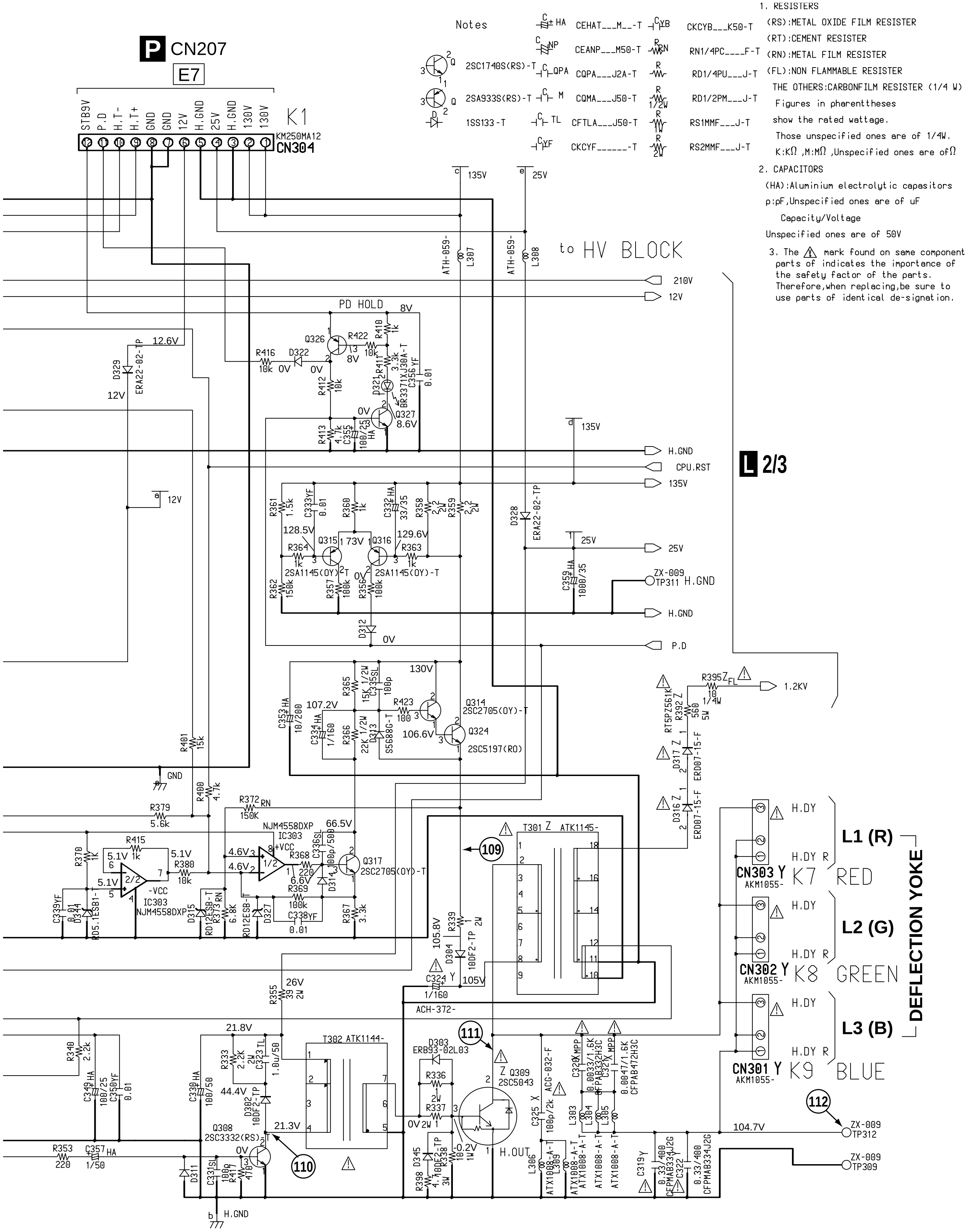

H 5/10
CN2201 Y1
I 1/2
CN1652 H3
H 5/10
CN2202 Y4
M CN5102
M3
P CN206
E6
K6
KM250MA13
CN305
K3
KM250MA6R
CN306
K2
KM250MA6
CN308
K4
KM250MA5
CN307
K12
KM250MA4
CN309
GND
ABL
V.BLK0
DH.BLK
DV
DH
VM.Y
CPU.R
H.V.PARA
PIN.KEY
H.OSC.SW
H.PHA.ADJ
H.SIZE.ADJ
H.T-
H.T+
N.C
210V
130V
VM.GND
30V
L 3/3
+135V
TO VM BLOCK
L 2/3
to HV BLOCK
HV.PARA
TP307
TP308
TP306
TP302
TP310
TP301
TP305
TP303
TP304
ZX-009
V.OSC
AFC
12V
H.OSC
HV.DRIVE
L310
LTA152J-T
ERA22-02-TP
D343
V.OSC.ADJ
V.BLK.OUT
V.BLK0
WIDTH ADJ
H.OSC.ADJ
H.BLK.OUT
IC301
TA8638N
X-Ray Sync.IN
HD.out
Sync.OUT
H.duty
V.SEP
AFC2
VD.IN
FBP
V.O.ADJ
H.GND
V.LIM
H.P.ADJ
V.CONT
H.VCC
V.VCC
H.OSC
V.FIL
H.O.ADJ
NF.IN
AFC1
V.GND
HD.IN
VD.OUT
J648
VR302
VR303
VR301
Q302
Q301
Q304
Q305
Q306
Q307
Q318
Q319
Q320
Q321
Q322
Q310
Q311
Q312
Q313
D305
D306
D307
D308
D309
D310
96
97
98
99
100
101
102
103
104
105
106
107
108

L 1/3 DEFLECTION SERVICE ASSY
(AWV1921)
- H. DEF BLOCK

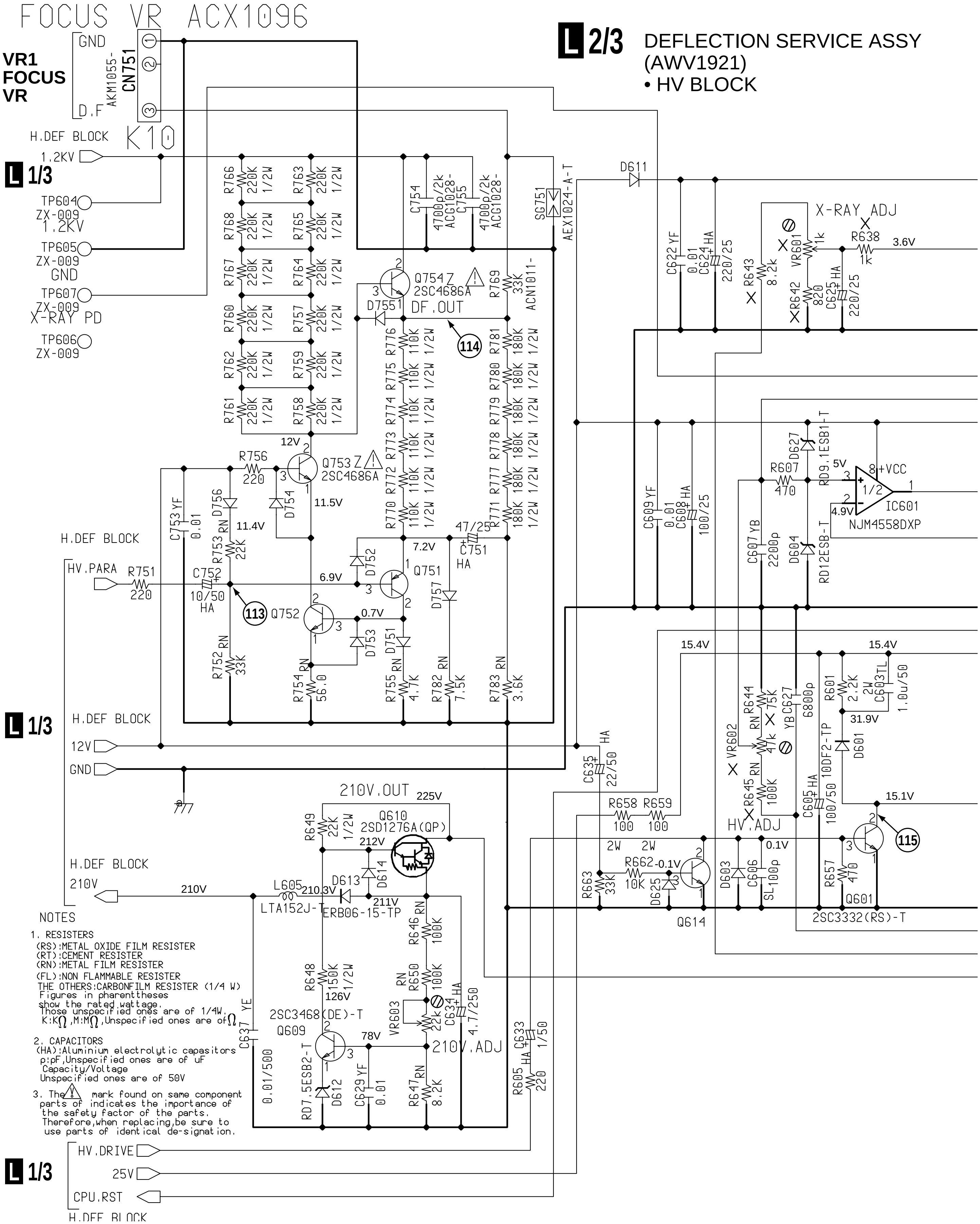
1. RESISTERS
(RS):METAL OXIDE FILM RESISTER
(RT):CEMENT RESISTER
(RN):METAL FILM RESISTER
(FL):NON FLAMMABLE RESISTER
THE OTHERS:CARBONFILM RESISTER (1/4 W)
Figures in pharenttheses
show the rated wattage.
Those unspecified ones are of 1/4W.
K:KΩ ,M:MΩ ,Unspecified ones are ofΩ

2. CAPACITORS
(HA):Aluminium electrolytic capasitors
p:pF,Unspecified ones are of uF
Capacity/Voltage
Unspecified ones are of 50V

3. The ⚠ mark found on same component parts of indicates the importance of the safety factor of the parts. Therefore,when replacing,be sure to use parts of identical de-signation.


Notes
2SC1740S(RS)-T
2SA933S(RS)-T
1SS133-T
HA CEHAT___M__-T
NP CEANP___M50-T
QPA CQPA___J2A-T
M CQMA___J50-T
TL CFTLA___J50-T
YF CKCYF______-T
YB CKCYB___K50-T
RN RN1/4PC____F-T
RD1/4PU___J-T
1/2W RD1/2PM___J-T
1W RS1MMF___J-T
2W RS2MMF___J-T
P CN207
E7
STB9V P.D H.T- H.T+ GND GND 12V H.GND 25V H.GND 130V 130V
K1
KM250MA12
CN304
c 135V
e 25V
ATH-059- L307
ATH-059- L308
to HV BLOCK
210V
12V
PD HOLD
8V
Q326
R422 10k
R410 1k
R416 10k
D322
0V
R412 10k
R411 3.3k
D321 BR3371XJ30A-T
C356 YF 0.01
Q327
8.6V
R413 4.7k
C355 100/25 HA
12.6V
D329 ERA22-02-TP
12V
d 135V
H.GND
CPU.RST
135V
L 2/3
R361 1.5k
C333 YF 0.01
R360 1k
C332 HA 33/35
R358 2.2 2W
R359 2.2 2W
128.5V
129.6V
Q315 73V Q316
R364 1k
R363 1k
2SA1145(OY)-T
2SA1145(OY)-T
R362 150k
R357 100k
R356 100k
D328 ERA22-02-TP
25V
C359 HA 1000/35
ZX-009 TP311 H.GND
D312
0V
P.D
a 12V
130V
R365 15K 1/2W
C335 SL 100p
107.2V
R423 100
Q314 2SC2705(OY)-T
C353 HA 10/200
C334 HA 1/160
R366 22K 1/2W
D313 S5688C-T
106.6V
Q324 2SC5197(RO)
R401 15k
GND
R400 4.7k
R395 Z FL 10 1/4W
1.2KV
RT5PZ561K R392 Z 560 5W
D317 Z ERD07-15-F
D316 Z ERD07-15-F
R379 5.6k
R372 RN 150K
NJM4558DXP IC303
66.5V
T301 Z ATK1145-
109
R370 1K
R415 1k
5.1V 5.1V 5.1V
4.6V 4.6V
R380 10k
-VCC IC303 NJM4558DXP
+VCC
R368 220
C336 SL 100p/500
D314
Q317 2SC2705(OY)-T
6.6V
R369 100k
C338 YF 0.01
R367 3.3k
C339 YF 0.01
D344 RD5.1ESB1-T
D315 RD12ESB-T
R373 RN 6.8K
RD12ESB-T D327
H.DY
L1 (R)
H.DY R
CN303 Y K7 RED AKM1055-
L2 (G)
CN302 Y K8 GREEN AKM1055-
L3 (B)
CN301 Y K9 BLUE AKM1055-
DEFLECTION YOKE
105.8V
R339 1 2W
D304 10DF2-TP
C324 Y 1/160
105V
ACH-372-
R355 39 2W
26V
21.8V
T302 ATK1144-
R340 2.2k
C349 HA 100/25
C350 YF 0.01
C330 HA 100/50
R333 2.2K 2W
C323 TL 1.0u/50
44.4V
D302 10DF2-TP
21.3V
Q308 2SC3332(RS)-T
110
R353 220
C357 HA 1/50
D311
C331 SL 100p
R417 470
0V
b H.GND
111
D303 ERB93-02L03
R336 2W
R337 2W
0V
Q309 2SC5043
H.OUT
D345 10DF2-TP
R338 10 1W
-0.2V
R398 4.7 3W
C325 X 100p/2k
ACG-032-F
C320 MPP 0.0033/1.6K CFPA8332H3C
C321 X MPP 0.0047/1.6K CFPA8472H3C
L303 L304 L305
L306 L309
ATX1008-A-T
C319 Y
0.33/400 CFMAB334J2G
C322 0.33/400 CFMAB334J2G
104.7V
112
ZX-009 TP312
ZX-009 TP309
A B C D

3.32 DEFLECTION SERVICE ASSY (2/3)

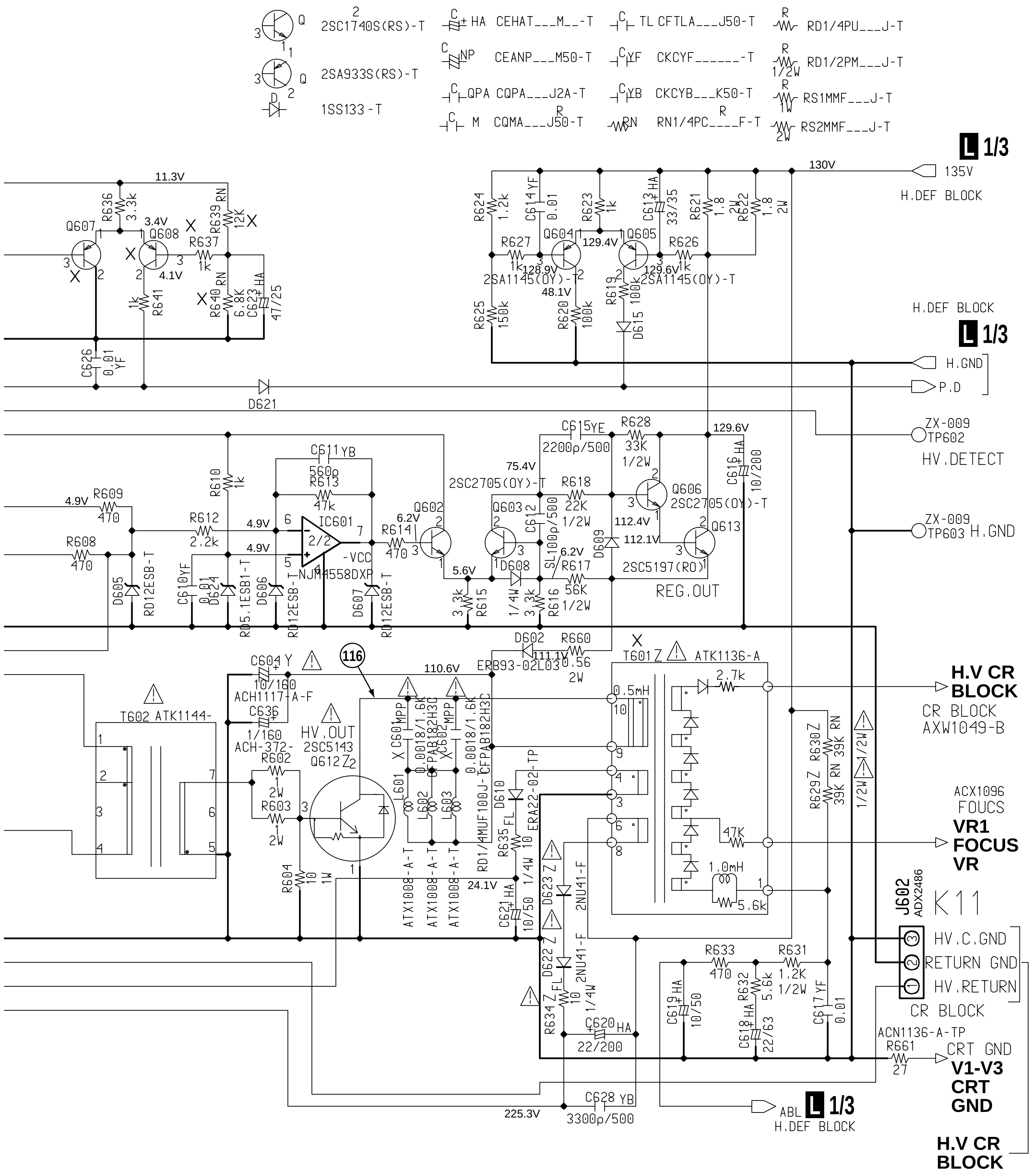

FOCUS VR ACX1096
L 2/3
DEFLECTION SERVICE ASSY
(AWV1921)
• HV BLOCK
VR1
FOCUS
VR
GND
D.F
AKM1055-
CN751
K10
H.DEF BLOCK
1.2KV
L 1/3
TP604
ZX-009
1.2KV
TP605
ZX-009
GND
TP607
ZX-009
X-RAY PD
TP606
ZX-009
R766 220K 1/2W
R763 220K 1/2W
R768 220K 1/2W
R765 220K 1/2W
R767 220K 1/2W
R764 220K 1/2W
R760 220K 1/2W
R757 220K 1/2W
R762 220K 1/2W
R759 220K 1/2W
R761 220K 1/2W
R758 220K 1/2W
C754 4700p/2k ACG1028-
C755 4700p/2k ACG1028-
SG751
AEX1024-A-T
Q754 2SC4686A
D755
DF.OUT
114
R769 33K ACN1011-
R776 110K 1/2W
R775 110K 1/2W
R774 110K 1/2W
R773 110K 1/2W
R772 110K 1/2W
R770 110K 1/2W
R781 180K 1/2W
R780 180K 1/2W
R779 180K 1/2W
R778 180K 1/2W
R777 180K 1/2W
R771 180K 1/2W
12V
R756 220
Q753 2SC4686A
11.5V
D756
D754
11.4V
C753 YF 0.01
R753 RN 22K
47/25
C751 HA
7.2V
D752
Q751
6.9V
D757
H.DEF BLOCK
HV.PARA
R751 220
C752 10/50 HA
113
Q752
0.7V
D753
D751
R752 RN 33K
R754 RN 56.0
R755 RN 4.7K
R782 RN 7.5K
R783 RN 3.6K
L 1/3
H.DEF BLOCK
12V
GND
210V.OUT
225V
R649 22K 1/2W
Q610
2SD1276A(QP)
212V
D614
D613
ERB06-15-TP
210.3V
211V
L605
LTA152J-T
H.DEF BLOCK
210V
210V
R646 RN 100K
R648 150K 1/2W
126V
R650 RN 100K
VR603 22k
C634 HA 4.7/250
210V.ADJ
2SC3468(DE)-T
Q609
78V
C637 YE 0.01/500
RD7.5ESB2-T
D612
C629 YF 0.01
R647 RN 8.2K
R605 220
C633 HA 1/50
HV.DRIVE
25V
CPU.RST
H.DEF BLOCK
L 1/3
D611
C622 YF 0.01
C624 HA 220/25
X-RAY ADJ
R638 1k
3.6V
R643 8.2k
VR601 1k
R642 820
C625 HA 220/25
C609 YF 0.01
C608 HA 100/25
D627 RD9.1ESB1-T
R607 470
5V
8 +VCC
1/2
IC601
NJM4558DXP
4.9V
C607 YB 2200p
D604 RD12ESB-T
15.4V
15.4V
R644 RN 75K
C627 YB 6800p
R601 2.2K 2W
C603 TL 1.0u/50
31.9V
VR602 RN 47k
D601 10DF2-TP
R645 RN 100K
C605 HA 100/50
15.1V
C635 HA 22/50
R658 100 2W
R659 100 2W
HV.ADJ
0.1V
115
R662 10K
-0.1V
R663 33K
D625
Q614
D603
C606 SL 100p
R657 470
Q601
2SC3332(RS)-T

NOTES

1. RESISTERS
(RS):METAL OXIDE FILM RESISTER
(RT):CEMENT RESISTER
(RN):METAL FILM RESISTER
(FL):NON FLAMMABLE RESISTER
THE OTHERS:CARBONFILM RESISTER (1/4 W)
Figures in pharenttheses
show the rated wattage.
Those unspecified ones are of 1/4W.
K:KΩ,M:MΩ,Unspecified ones are ofΩ

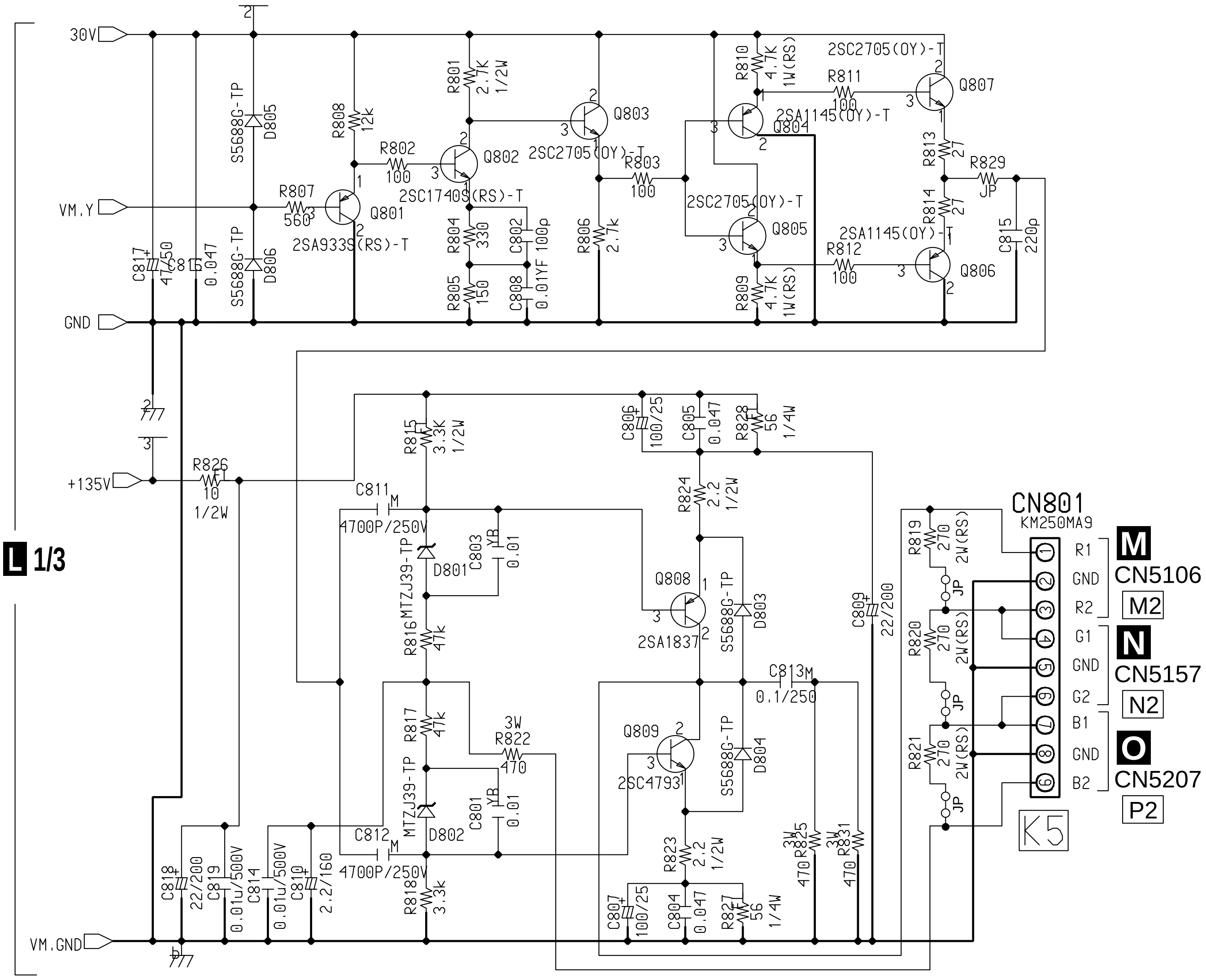
2. CAPACITORS
(HA):Aluminium electrolytic capasitors
p:pF,Unspecified ones are of uF
Capacity/Voltage
Unspecified ones are of 50V

3. The ⚠ mark found on same component
parts of indicates the importance of
the safety factor of the parts.
Therefore,when replacing,be sure to
use parts of identical de-signation.


Q 2SC1740S(RS)-T
Q 2SA933S(RS)-T
D 1SS133-T
C HA CEHAT___M__-T
C NP CEANP___M50-T
C QPA CQPA___J2A-T
C M CQMA___J50-T
C TL CFTLA___J50-T
C YF CKCYF______-T
C YB CKCYB___K50-T
R RN RN1/4PC____F-T
R RD1/4PU___J-T
R 1/2W RD1/2PM___J-T
R 1W RS1MMF___J-T
R 2W RS2MMF___J-T
L 1/3
135V
H.DEF BLOCK
130V
11.3V
R636 3.3k
R639 RN 12K
Q607
Q608
3.4V
4.1V
R637 1k
R641 1k
R640 RN 6.8K
C623 HA 47/25
C626 0.01 YF
D621
R624 1.2k
C614 YF 0.01
R623 1k
C613 HA 33/35
R621 1.8 2W
R622 1.8 2W
R627 1k
Q604
129.4V
Q605
R626 1k
128.9V
129.6V
2SA1145(OY)-T
2SA1145(OY)-T
48.1V
R625 150k
R620 100k
R619 100k
D615
H.DEF BLOCK
L 1/3
H.GND
P.D
ZX-009
TP602
HV.DETECT
C615 YE 2200p/500
R628 33K 1/2W
129.6V
C616 HA 10/200
75.4V
C611 YB 560p
R613 47k
R610 1k
2SC2705(OY)-T
R618 22k 1/2W
Q606 2SC2705(OY)-T
Q603
C612 SL 100p/500
112.4V
112.1V
Q613
2SC5197(RO)
REG.OUT
ZX-009
TP603 H.GND
4.9V
R609 470
R608 470
R612 2.2k
4.9V
4.9V
IC601 2/2
NJM4558DXP
-VCC
R614 470
6.2V
Q602
5.6V
D608
6.2V
R617 56K 1/2W
D609
R615 3.3k
R616 3.3k 1/4W
D605 RD12ESB-T
C610 YF 0.01
D624 RD5.1ESB1-T
D606 RD12ESB-T
D607 RD12ESB-T
D602 ERB93-02L03
R660 0.56 2W
111.1V
T601 ATK1136-A
110.6V
C604 Y 10/160
ACH1117-A-F
C636 1/160
ACH-372-
116
T602 ATK1144-
1 2 3 4 5 6 7
R602 1 2W
R603 1 2W
R604 10 1W
HV.OUT
2SC5143
Q612
C601 MPP 0.0018/1.6K CFPAB182H3C
C602 MPP 0.0018/1.6K CFPAB182H3C
L601 ATX1008-A-T
L602 ATX1008-A-T
L603 ATX1008-A-T
RD1/4MUF100J-
D610 ERA22-02-TP
R635 FL 10 1/4W
24.1V
C621 HA 10/50
D623 2NU41-F
D622 2NU41-F
R634 FL 10 1/4W
C620 HA 22/200
C628 YB 3300p/500
225.3V
0.5mH
10 9 4 3 6 8 1
2.7k
47K
1.0mH
5.6k
R630 RN 39K 1/2W
R629 RN 39K 1/2W
H.V CR BLOCK
CR BLOCK
AXW1049-B
ACX1096
FOUCS
VR1 FOCUS VR
J602 ADX2486
K11
HV.C.GND
RETURN GND
HV.RETURN
CR BLOCK
R633 470
R631 1.2K 1/2W
C619 HA 10/50
R632 5.6k
C618 HA 22/63
C617 YF 0.01
ACN1136-A-TP
R661 27
CRT GND
V1-V3 CRT GND
ABL
L 1/3
H.DEF BLOCK
H.V CR BLOCK

3.33 DEFLECTION SERVICE ASSY (3/3)

L 3/3 DEFLECTION SERVICE ASSY (AWV1921)
• VM BLOCK

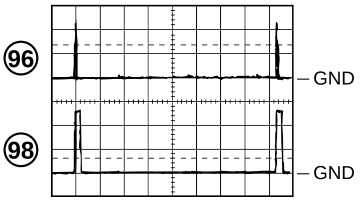

30V
VM.Y
GND
+135V
VM.GND
L 1/3
S5688G-TP D805
S5688G-TP D806
C817 47/50
C816 0.047
R808 12k
R807 560
Q801 2SA933S(RS)-T
R802 100
Q802 2SC1740S(RS)-T
R801 2.7K 1/2W
R804 330
C802 100p
R805 150
C808 0.01YF 100p
Q803 2SC2705(OY)-T
R803 100
R806 2.7k
R810 4.7K 1W(RS)
Q804 2SA1145(OY)-T
Q805 2SC2705(OY)-T
R809 4.7K 1W(RS)
R811 100
R812 100
Q807 2SC2705(OY)-T
Q806 2SA1145(OY)-T
R813 27
R814 27
R829 JP
C815 220p
R826 10 1/2W
C811 4700P/250V
R815 3.3K 1/2W
D801 MTZJ39-TP
C803 YB 0.01
R816 47k
R817 47k
R822 3W 470
D802 MTZJ39-TP
C801 YB 0.01
C812 4700P/250V
R818 3.3k
C818 22/200
C819 0.01u/500V
C814 0.01u/500V
C810 2.2/160
C806 100/25
C805 0.047
R828 56 1/4W
R824 2.2 1/2W
Q808 2SA1837
D803 S5688G-TP
Q809 2SC4793
D804 S5688G-TP
C813 0.1/250
R823 2.2 1/2W
C807 100/25
C804 0.047
R827 56 1/4W
R825 3W 470
R831 3W 470
C809 22/200
R819 270 2W(RS)
R820 270 2W(RS)
R821 270 2W(RS)
JP
CN801 KM250MA9
R1 GND R2 G1 GND G2 B1 GND B2
M CN5106 M2
N CN5157 N2
O CN5207 P2
K5

L

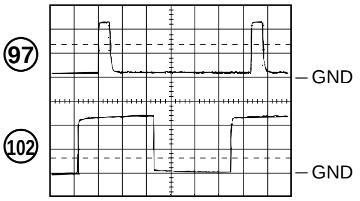
DEFLECTION SERVICE ASSY

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

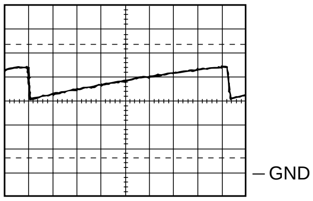
⑯ **TP307 (DV)**
V: 2V/div. H: 2msec/div.
⑱ **TP306 (V. BLK)**
V: 2V/div. H: 2msec/div.



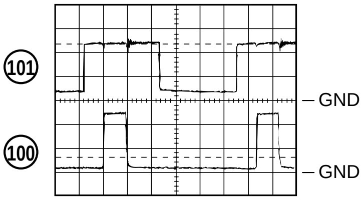
⑰ **TP308 (DH)**
V: 2V/div. H: 5µsec/div.
(102) **IC301 pin 2**
V: 5V/div. H: 5µsec/div.



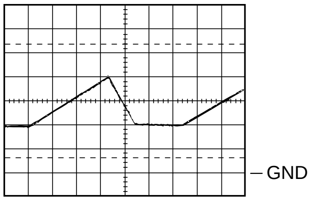
(99) **IC301 pin 20**
V: 2V/div. H: 2msec/div.



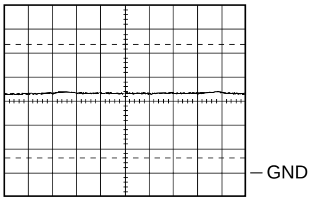
(100) **TP305 (DH. BLK)**
V: 2V/div. H: 5µsec/div.
(101) **TP304 (H. OSC)**
V: 2V/div. H: 5µsec/div.



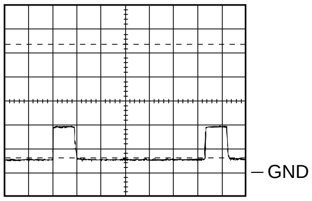
(103) **IC301 pin 3**
V: 2V/div. H: 5µsec/div.



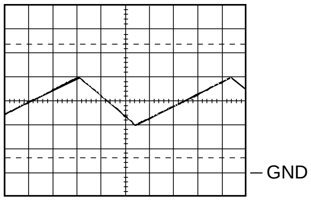
(104) **IC301 pin 4**
V: 2V/div. H: 5µsec/div.



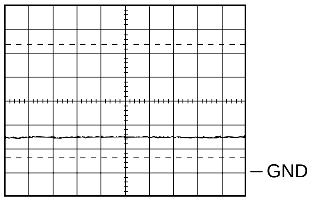
(105) **IC301 pin 5**
V: 2V/div. H: 5µsec/div.



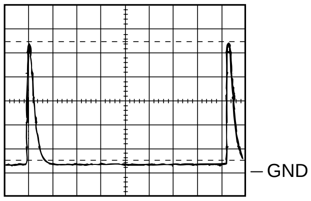
(106) **IC301 pin 9**
V: 2V/div. H: 5µsec/div.



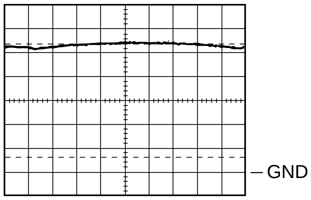
(107) **IC301 pin 10, 11**
V: 2V/div. H: 5µsec/div.



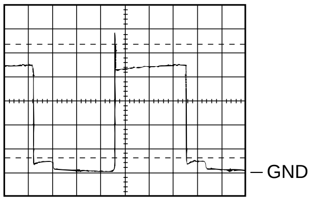
(108) **IC301 pin 16**
V: 2V/div. H: 2msec/div.



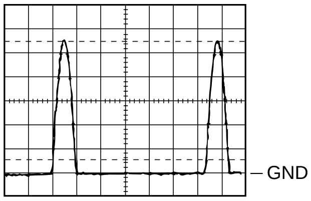
(109) **Q324 Emitter**
V: 20V/div. H: 2msec/div.



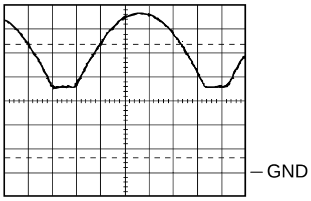
(110) **Q308 Collector**
V: 10V/div. H: 5µsec/div.



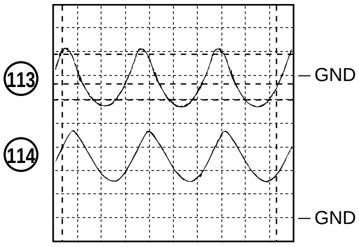
(111) **Q309 Collector**
V: 200V/div. H: 5µsec/div.



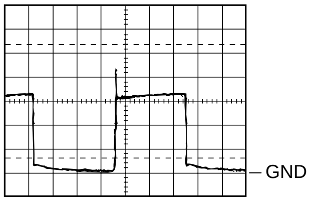
(112) **TP312**
V: 20V/div. H: 5µsec/div.



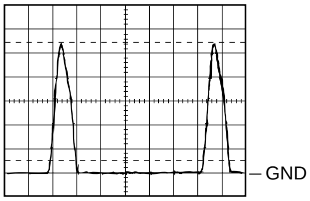
(113) **Q751 Base**
V: 2V/div. H: 10µsec/div.
(114) **Q754 Emitter**
V: 200V/div. H: 10µsec/div.



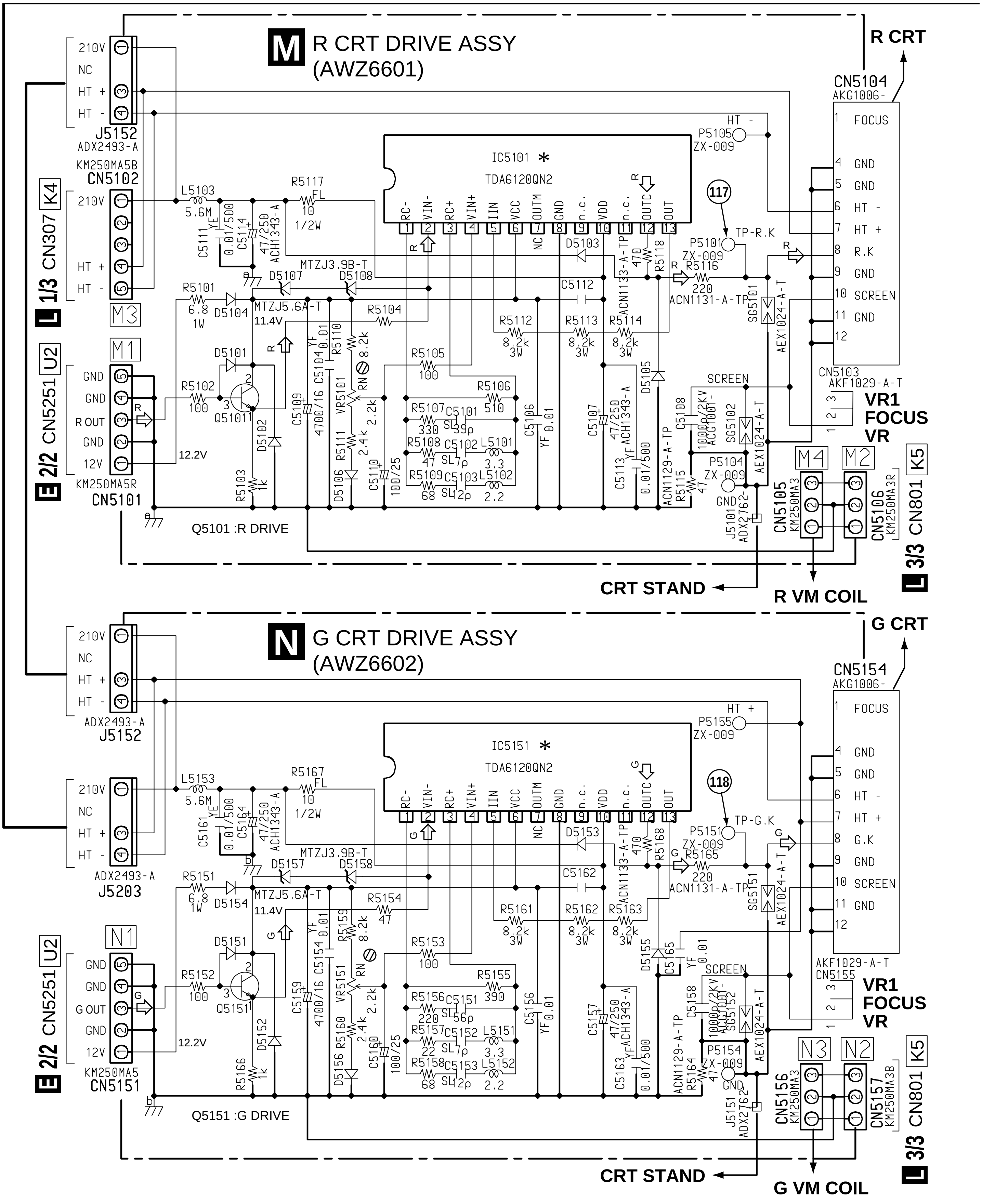
(115) **Q601 Collector**
V: 10V/div. H: 5µsec/div.



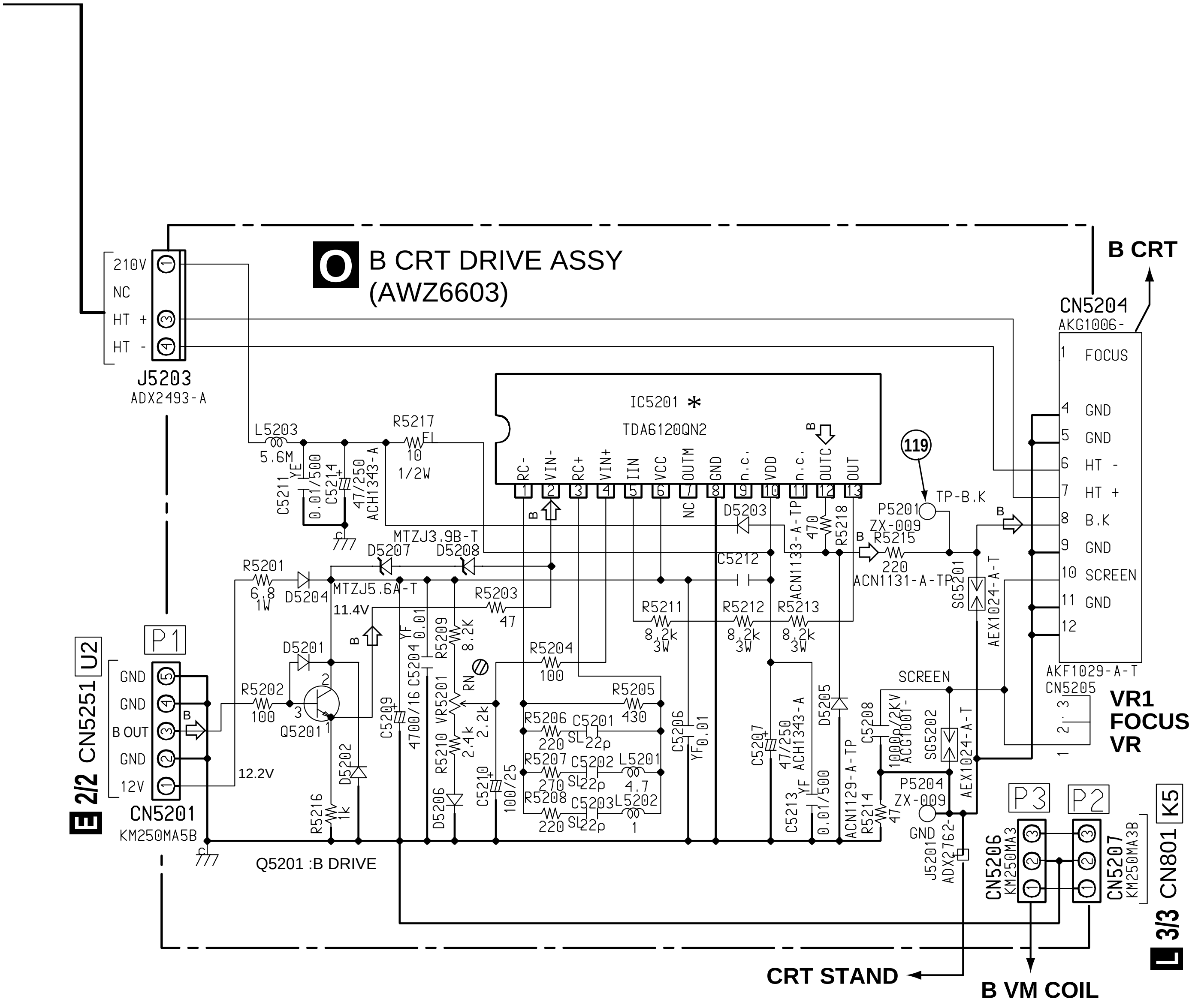
(116) **Q612 Collector**
V: 200V/div. H: 5µsec/div.



3.34 R, G and B CRT DRIVE ASSYS


M R CRT DRIVE ASSY
(AWZ6601)
R CRT
N G CRT DRIVE ASSY
(AWZ6602)
G CRT
J5152
ADX2493-A
210V
NC
HT +
HT -
KM250MA5B
CN5102
K4 CN307 1/3 L
M3
M1
U2 CN5251 2/2 E
GND
R OUT
12V
12.2V
KM250MA5R
CN5101
Q5101 :R DRIVE
L5103
5.6M
C5111
C5114
0.01/500
47/250
ACH1343-A
R5117
FL
10
1/2W
IC5101 *
TDA6120QN2
RC-
VIN-
RC+
VIN+
IIN
VCC
OUTM
GND
n.c.
VDD
OUTC
OUT
NC
D5103
D5107
D5108
MTZJ3.9B-T
R5101
6.8
1W
D5104
MTZJ5.6A-T
11.4V
R5104
R5102
100
Q5101
D5101
D5102
R5103
1k
C5109
4700/16
C5104
0.01
R5110
8.2k
VR5101
2.2k
R5111
2.4k
D5106
C5110
100/25
R5105
100
R5106
510
R5107
330
C5101
39p
R5108
47
C5102
7p
L5101
3.3
R5109
68
C5103
12p
L5102
2.2
C5106
0.01
C5107
47/250
ACH1343-A
C5113
0.01/500
C5112
R5112
R5113
R5114
8.2k
3W
D5105
R5118
470
ACN1133-A-TP
R5116
220
ACN1131-A-TP
P5101
ZX-009
TP-R.K
117
HT -
P5105
ZX-009
SG5101
AEX1024-A-T
SCREEN
C5108
1000p/2KV
ACG1001-
SG5102
ACN1129-A-TP
R5115
47
P5104
ZX-009
GND
J5101
ADX2762-
CN5104
AKG1006-
FOCUS
R.K
CN5103
AKF1029-A-T
VR1 FOCUS VR
M4
M2
K5
CN5105
KM250MA3
CN5106
KM250MA3R
CN801 3/3 L
CRT STAND
R VM COIL
J5203
ADX2493-A
N1
G OUT
KM250MA5
CN5151
Q5151 :G DRIVE
L5153
C5161
C5164
R5167
IC5151 *
D5153
D5157
D5158
R5151
D5154
R5154
47
R5152
Q5151
D5151
D5152
R5166
C5159
C5154
R5159
VR5151
R5160
D5156
C5160
R5153
R5155
390
R5156
220
C5151
56p
R5157
22
C5152
L5151
R5158
C5153
L5152
C5156
C5157
C5163
C5162
R5161
R5162
R5163
D5155
C5165
R5168
R5165
P5151
TP-G.K
118
HT +
P5155
SG5151
C5158
SG5152
R5164
P5154
J5151
CN5154
G.K
CN5155
N3
N2
CN5156
CN5157
KM250MA3B
G VM COIL

O B CRT DRIVE ASSY (AWZ6603)


A
B
C
B CRT
CN5204
AKG1006-
1 FOCUS
4 GND
5 GND
6 HT -
7 HT +
8 B.K
9 GND
10 SCREEN
11 GND
12
AKF1029-A-T
CN5205
VR1 FOCUS VR
210V
NC
HT +
HT -
J5203
ADX2493-A
IC5201 *
TDA6120QN2
RC-
VIN-
RC+
VIN+
IIN
VCC
OUTM
GND
n.c.
VDD
n.c.
OUTC
OUT
NC
L5203 5.6M
C5211 YE 0.01/500
C5214 47/250 ACH1343-A
R5217 FI 10 1/2W
MTZJ3.9B-T
D5207
D5208
R5201 6.8 1W
D5204
MTZJ5.6A-T
11.4V
R5203 47
D5201
R5202 100
Q5201
D5202
R5216 1k
C5209 4700/16
C5204 YF 0.01
R5209 8.2K
RN
VR5201 2.4k
R5210 2.2k
D5206
C5210 100/25
R5204 100
R5206 220
C5201 SL 22p
R5207 270
C5202 SL 22p
R5208 220
C5203 SL 22p
R5205 430
L5201 4.7
L5202 1
C5206 YF 0.01
R5211 8.2k 3W
R5212 8.2k 3W
R5213 8.2k 3W
C5212
D5203
ACN1133-A-TP
470
R5218
C5207 47/250 ACH1343-A
C5213 YF 0.01/500
D5205
ACN1129-A-TP
R5214 47
119
TP-B.K
P5201 ZX-009
R5215 220
ACN1131-A-TP
SG5201
AEX1024-A-T
SCREEN
C5208 1000p/2KV ACG1001-
SG5202
AEX1024-A-T
P5204 ZX-009
GND
J5201 ADX2762-
P1
U2 CN5251 2/2 E
GND
GND
B OUT
GND
12V
12.2V
CN5201
KM250MA5B
Q5201 :B DRIVE
P3
P2
CN5206 KM250MA3
CN5207 KM250MA3B
K5 CN801 3/3 L
CRT STAND
B VM COIL

R, G or B ⇨ : R, G or B SIGNAL ROUTE

* Resistor indicated in ohm,1/4W+5% tolerance unless otherwise noted.k:k ohm,M:M ohm

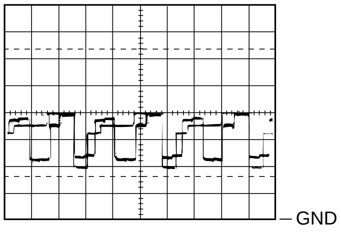
* Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted.p:pF indication without voltage is 50V except Electrolytic capacitor.

* Diode
S5688G-TP

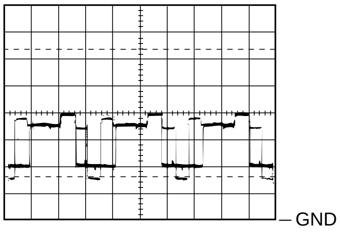
* Transister
2SC1740S(RS)-T

INPUT Signal
Video signal: EIA full color-bar
Picture quality: Standard
Range: DC range

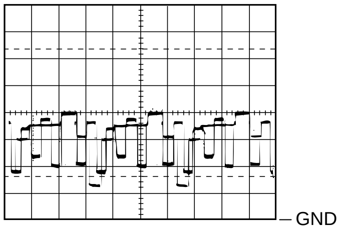
⑪⑦ **TP-R.K**
V: 50V/div. H: 10μsec/div.



⑪⑧ **TP-G.K**
V: 50V/div. H: 10μsec/div.

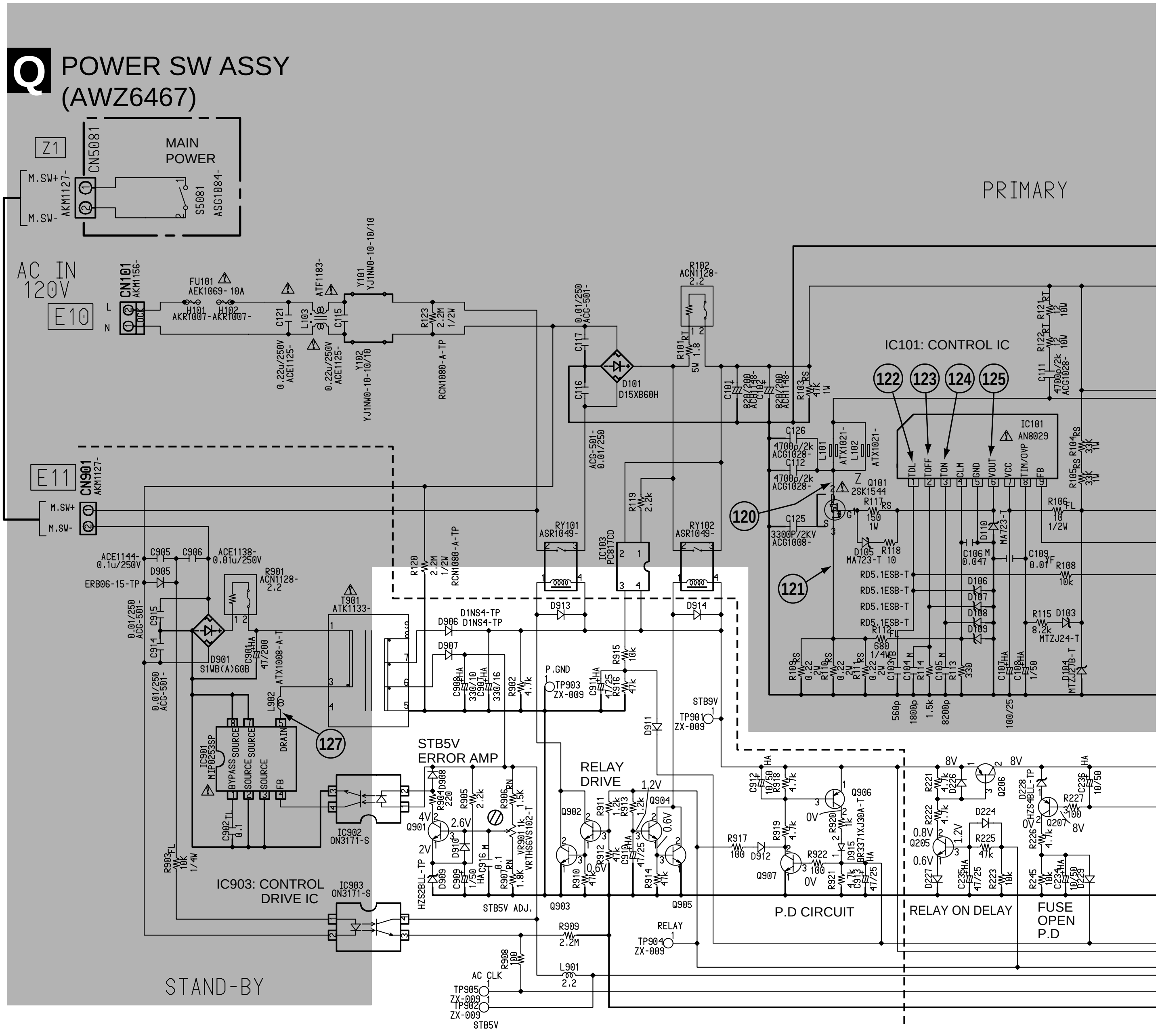


⑪⑨ **TP-B.K**
V: 50V/div. H: 10μsec/div.



3.35 POWER SUPPLY ASSY

P POWER SUPPLY ASSY
(AWV1912)


Q POWER SW ASSY (AWZ6467)
Z1
CN5081
MAIN POWER
M.SW+
M.SW-
AKM1127-
S5081
ASC1084-
PRIMARY
AC IN 120V
CN101 AKM1156-
E10
FU101 AEK1069-10A
H101 H102
AKR1007-AKR1007-
C121 0.22u/250V ACE1125-
L103 ATF1183-
C115 0.22u/250V ACE1125-
Y101 YJ1NN0-10-10/10
Y102 YJ1NN0-10-10/10
R123 2.2M 1/2W RCN1080-A-TP
C117 0.01/250 ACG-501-
C116
D101 D15XB60H
R102 ACN1128- 2.2
R101 5W 1.8
C101 820/200 ACH1148-
C102 820/200 ACH1148-
R103 47k 1W
IC101: CONTROL IC
122
123
124
125
IC101 AN8029
TDL
TOFF
TON
CLM
GND
VOUT
VCC
TIM/OVP
FB
R121
R122
C111 4700p/2k ACG1028-
R104 33k 1W
R105 33k 1W
R106 10 1/2W
C126 4700p/2k ACG1028-
C112 4700p/2k ACG1028-
L101 ATX1021-
L102 ATX1021-
Q101 2SK1544
R117 150 1W
C125 3300P/2KV ACG1008-
D105 MA723-T 10
R118
D110 MA723-T
C106 0.047
C109 0.01
R108 10k
120
121
RD5.1ESB-T
D106
D107
D108
D109
R112 680 1/4W
R115 8.2k
D103 MTZJ24-T
D104 MTZJ27B-T
R109
R110
R111
R113
R114
R107
C103
C104
C105
C107
C108
560p
1800p
1.5k
8200p
100/25
E11
CN901 AKM1127-
ACE1144- 0.1u/250V
C905
C906
ACE1138- 0.01u/250V
D905 ERB06-15-TP
R901 ACN1128- 2.2
C915 0.01/250 ACG-501-
C914 0.01/250 ACG-501-
D901 S1WB(A)60B
C904 47/200
L902 ATX1008-A-T
T901 ATK1133-
127
IC901 MIP0255SP
BYPASS
SOURCE
SOURCE
SOURCE
FB
DRAIN
C902 0.1
R903 10K 1/4W
IC902 ON3171-S
IC903: CONTROL DRIVE IC
IC903 ON3171-S
STAND-BY
RY101 ASR1049-
IC103 PC817CD
RY102 ASR1049-
R119 2.2k
R120 2.2M 1/2W RCN1080-A-TP
D913
D914
D906 D1NS4-TP
D907
P.GND
TP903 ZX-009
R915 10k
R916 47k
STB9V
TP901 ZX-009
D911
STB5V ERROR AMP
RELAY DRIVE
Q901
Q902
Q903
Q904
Q905
4V
2V
2.6V
1.2V
0.6V
D908
D909 HZS2BLL-TP
D910
VR901 VRTH6VS102-T 1k
R906
R907 1.8K
STB5V ADJ.
R909 2.2M
R908 100
TP904 ZX-009
RELAY
AC CLK
TP905 ZX-009
TP902 ZX-009
STB5V
L901 2.2
Q906
Q907
R917 100
D912
D915 BR3371XJ30A-T
P.D CIRCUIT
8V
Q205
Q206
Q207
D224
D226
D227
D228 HZS4BLL-TP
D229
R225 47k
RELAY ON DELAY
FUSE OPEN P.D

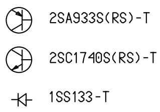
▨ : CHARGED SECTION

1.RESISTORS
(RS);METAL OXIDE FILM RESISTOR
(RT);CEMENT RESISTOR
(RN);METAL FILM RESISTOR
(FL);NONFLAMMABLE RESISTOR
THE OTHERS;CARBON FILM RESISTOR

Those unspecified ones are of 1/4W
k;kΩ ,M;MΩ ,Unspecified ones are of Ω

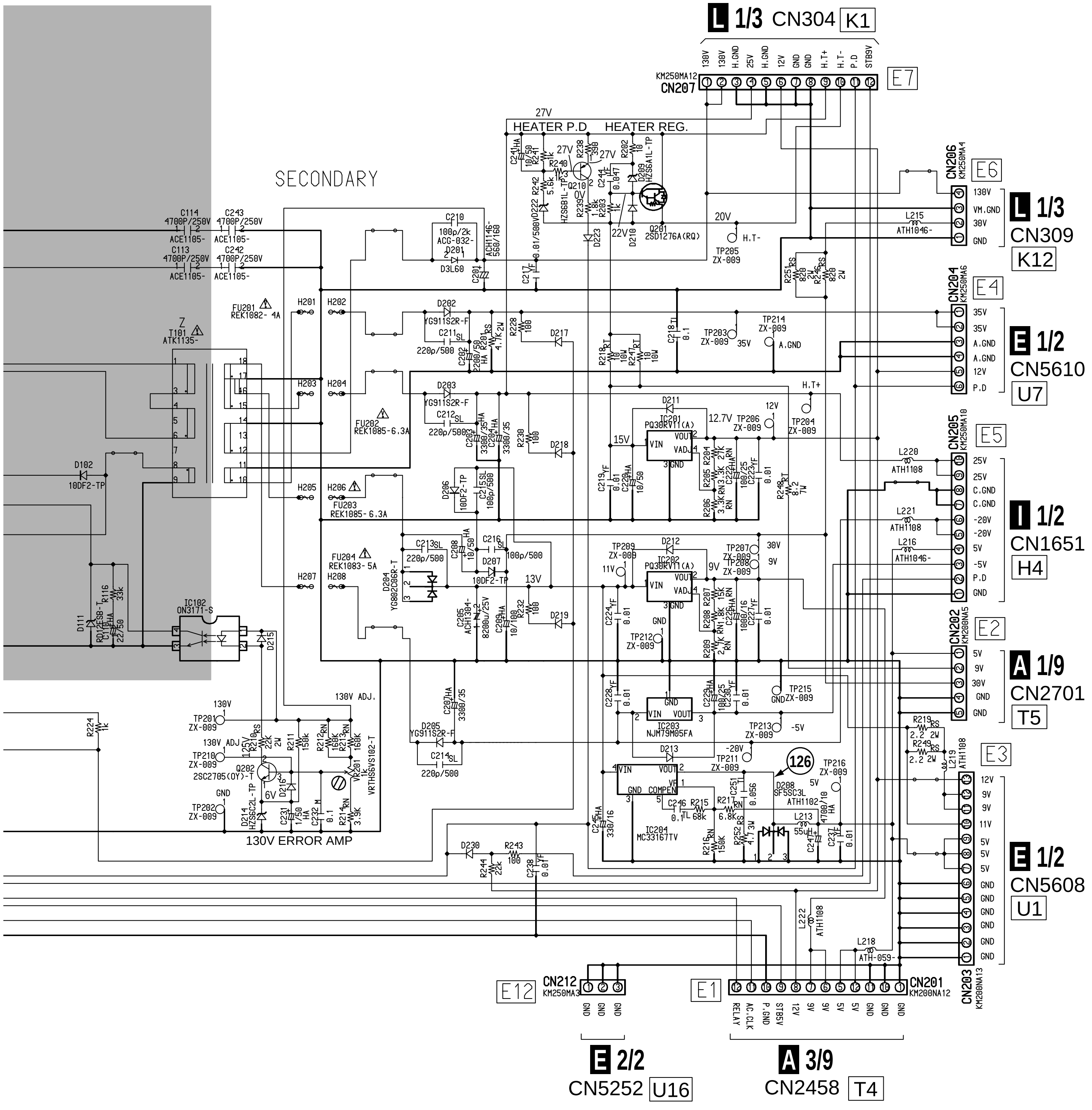
2.CAPACITORS
(YF);CERAMIC CAPACITOR
(SL);CERAMIC CAPACITOR
(HA);HIGH TEMP CHEMICAL CAPACITOR
(YB);CERAMIC CAPACITOR
(M);MILAR CAPACITOR
p;pF,Unspecified ones are of μ F
Capacity / Voltage (;A.C,no mark;D.C)
Unspecified ones are of 50V

3.The ⚠ mark found on same component parts indicates the importance of the safety factor of the parts.
Therefore,when replacing,be sure to use parts of identical de-signation.


2SA933S(RS)-T
2SC1740S(RS)-T
1SS133-T

- NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

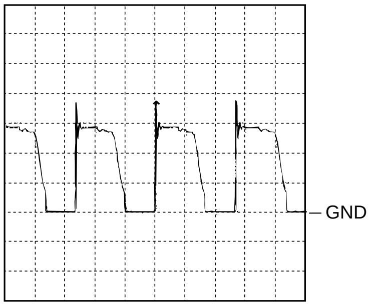


SECONDARY
L 1/3 CN304 K1
KM250MA12 CN207
130V 130V H.GND 25V H.GND 12V GND GND H.T+ H.T- P.D STB9V
E7
27V
HEATER P.D HEATER REG.
Q210
Q201 2SD1276A(RQ)
D209 HZS6A1L-TP
D210
D223
22V
20V
H.T-
TP205 ZX-009
CN206 KM250MA4
E6
130V VM.GND 30V GND
L215 ATH1046-
L 1/3 CN309 K12
C114 4700P/250V ACE1105-
C243 4700P/250V ACE1105-
C113 4700P/250V ACE1105-
C242 4700P/250V ACE1105-
C210 100p/2k ACG-032-
D201 D3L60
ACH1146- 560/160
FU201 REK1082- 4A
T101 ATK1135-
H201 H202 H203 H204 H205 H206 H207 H208
D202 YG911S2R-F
C211 220p/500
D217
R251 R246
CN204 KM250MA6
E4
35V 35V A.GND A.GND 12V P.D
E 1/2 CN5610 U7
TP203 ZX-009 35V
TP214 ZX-009 A.GND
H.T+
D203 YG911S2R-F
C212 220p/500
FU202 REK1085-6.3A
D218
D211
IC201 PQ30RV11(A)
VIN VOUT VADJ GND
12.7V
TP206 ZX-009
12V
TP204 ZX-009
15V
CN205 KM250MA10
E5
L220 ATH1108
25V 25V C.GND C.GND -20V -20V 5V -5V P.D GND
L221 ATH1108
L216 ATH1046-
I 1/2 CN1651 H4
D102 10DF2-TP
D206 10DF2-TP
FU203 REK1085-6.3A
FU204 REK1083-5A
D204 YG802C06R-T
C213 220p/500
C216 100p/500
D207 10DF2-TP
13V
D219
C205 ACH1304- 8200u/25V
TP209 ZX-009
11V
D212
IC202 PQ30RV11(A)
9V
TP207 ZX-009
TP208 ZX-009
30V 9V
TP212 ZX-009
CN202 KM200NA5
E2
5V 9V 30V GND GND
A 1/9 CN2701 T5
IC102 ON3171-S
D111 RD12ESB-T
R116 33k
D215
R224 1k
130V
TP201 ZX-009
130V ADJ
TP210 ZX-009
Q202 2SC2705(OY)-T-P
GND
TP202 ZX-009
D214 HZS6C2L-TP
6V
VR201 VRTHS6VS102-T
130V ADJ.
130V ERROR AMP
D205 YG911S2R-F
C214 220p/500
C207 3300/35
IC203 NJM79M05FA
GND VIN VOUT
TP215 ZX-009
TP213 ZX-009
-5V
-20V
D213
TP211 ZX-009
IC204 MC33167TV
VIN VOUT GND COMPEN
126
D208 SF5SC3L
5V
TP216 ZX-009
ATH1102
L213 55uH
R219 2.2 2W
R249 2.2 2W
L219 ATH1108
E3
12V 9V 9V 11V 5V 5V 5V GND GND GND GND GND GND
E 1/2 CN5608 U1
D230
R243 100
R244 22k
C238 0.01
L222 ATH1108
L218 ATH-059-
CN212 KM250MA3
E12
GND GND GND
E1
CN201 KM200NA12
RELAY AC.CLK P.GND STB5V 12V 9V 9V 5V 5V GND GND GND
CN203 KM200NA13
E 2/2 CN5252 U16
A 3/9 CN2458 T4

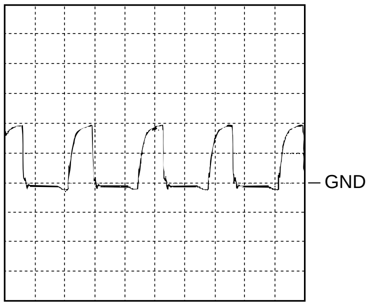
P POWER SUPPLY ASSY

Input signal
Video signal : EIA full color-bar
Picture quality : Standard
Range :DC range (Unless otherwise noted)

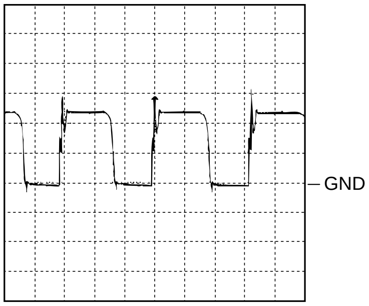
(120) **Q101 Drain**
V: 100V/div. H: 10µsec/div.



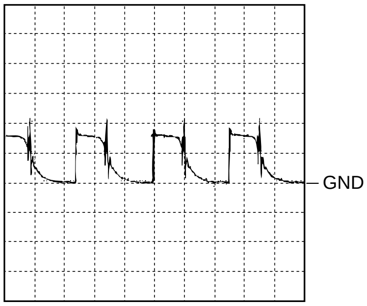
(121) **Q101 Gate**
V: 10V/div. H: 10µsec/div.



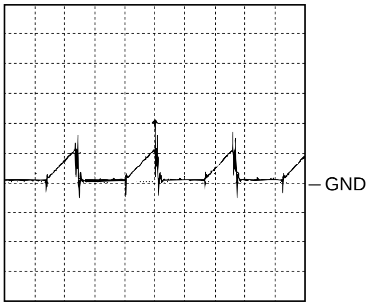
(122) **IC101 pin 1**
V: 1V/div. H: 10µsec/div.



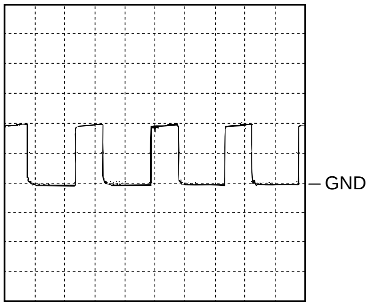
(123) **IC101 pin 2**
V: 500mV/div. H: 10µsec/div.



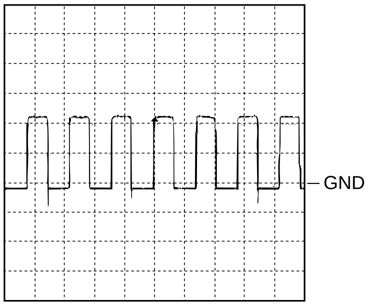
(124) **IC101 pin 3**
V: 500mV/div. H: 10µsec/div.



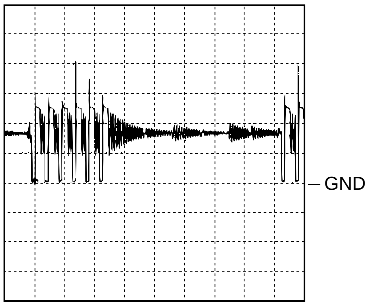
(125) **IC101 pin 6**
V: 10V/div. H: 10µsec/div.



(126) **IC204 pin 2**
V: 5V/div. H: 10µsec/div.

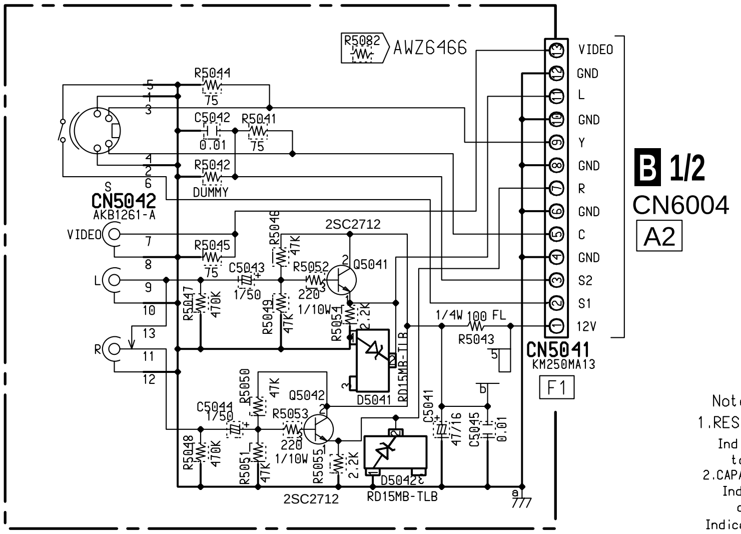


(127) **IC901 pin 5**
V: 100V/div. H: 50µsec/div.



3.36 FRONT INPUT, FRONT CONTROL and LED DPO ASSYS

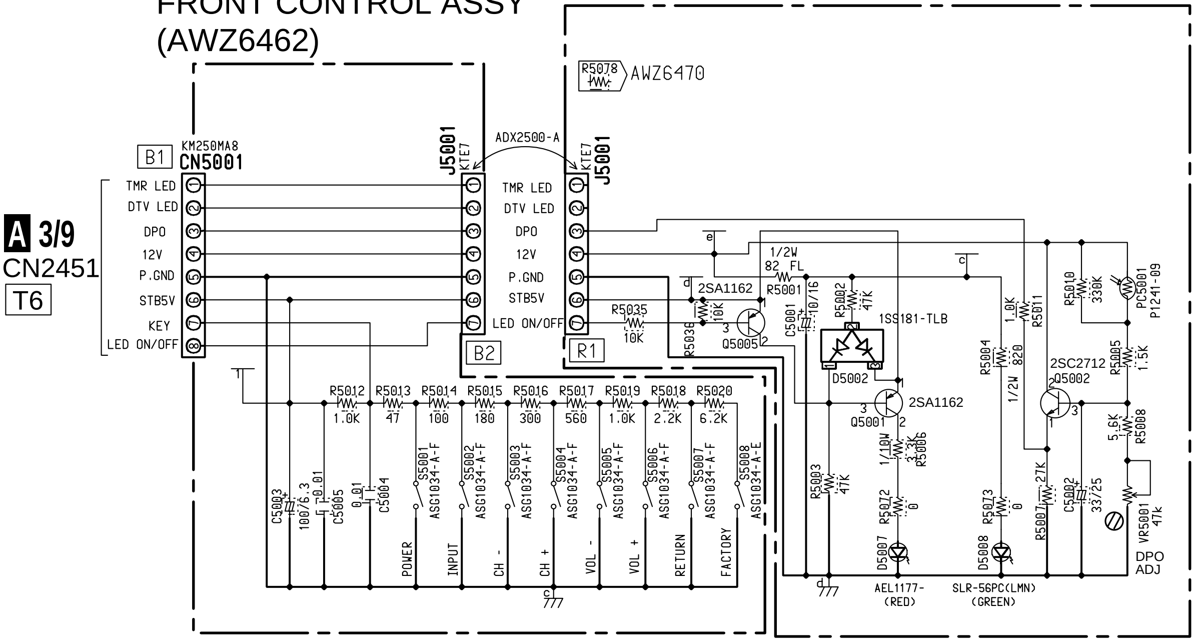
R FRONT INPUT ASSY
(AWZ6466)


R5082 AWZ6466
R5044 75
C5042 0.01
R5041 75
R5042 DUMMY
S CN5042 AKB1261-A
VIDEO
L
R
R5045 75
R5046 47K
2SC2712
C5043 1750
R5052 220 1/10W
Q5041
R5047 470K
R5049 47K
R5054 2.2K
D5041
RD15MB-TLB
1/4W 100 FL
R5043
R5050 47K
Q5042
C5044 1750
R5053 220 1/10W
R5048 470K
R5051 47K
R5055 2.2K
D5042
RD15MB-TLB
2SC2712
C5041 47/16
C5045 0.01
CN5041 KM250MA13
F1
VIDEO
GND
L
GND
Y
GND
R
GND
C
GND
S2
S1
12V
B 1/2
CN6004
A2

Notes
1.RESISTORS
Indicated in Ω
tolerance unless otherwise noted k Ω
2.CAPASITORS
Indicated in capacity(uF)/Voltage unless
otherwise noted p pF
Indication without voltage is 50V except electrolytic capacitor.

S FRONT CONTROL ASSY
(AWZ6462)

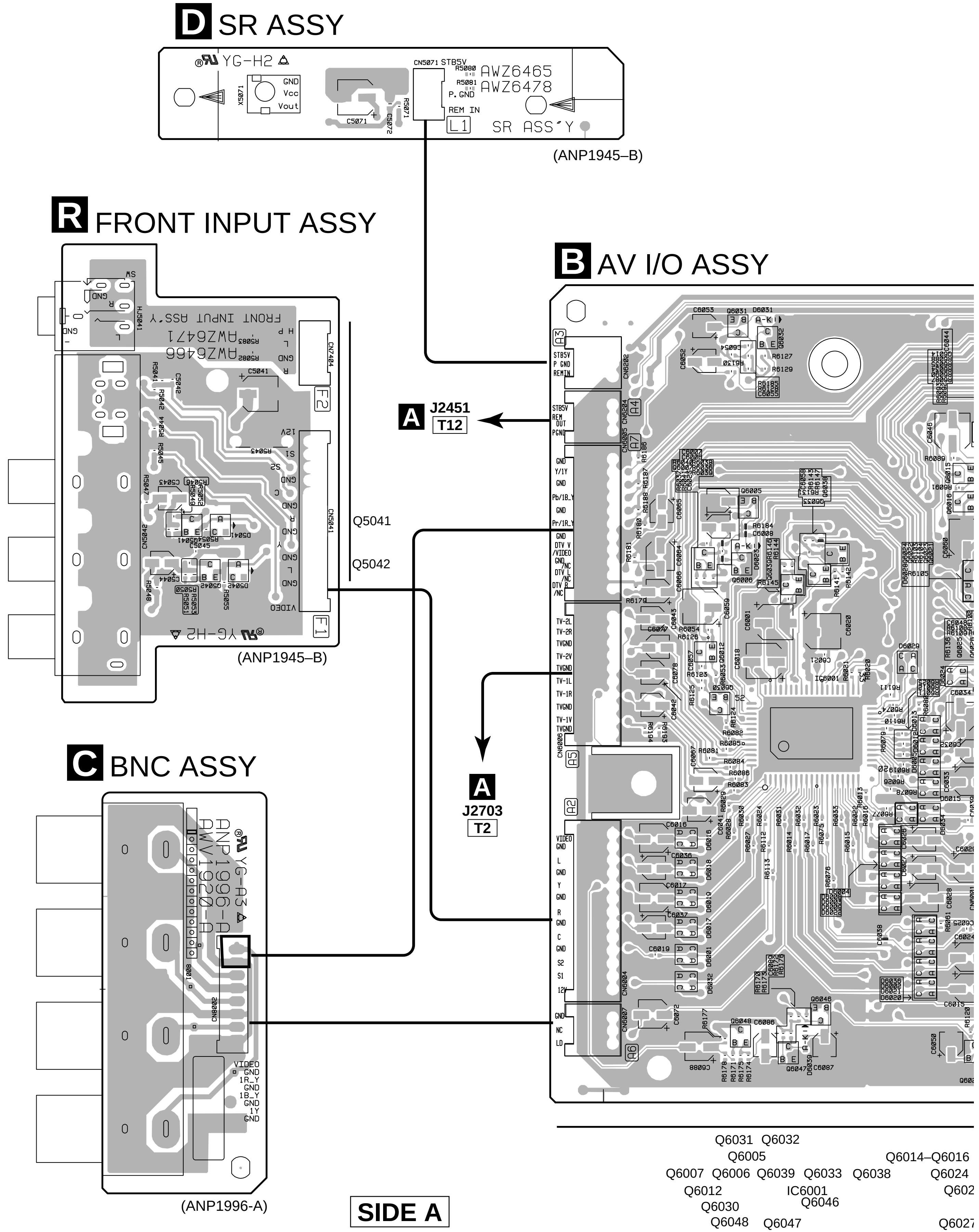
T LED DPO ASSY
(AWZ6470)


A 3/9
CN2451
T6
B1
KM250MA8
CN5001
TMR LED
DTV LED
DPO
12V
P.GND
STB5V
KEY
LED ON/OFF
J5001 KTE7
ADX2500-A
B2
R1
R5078 AWZ6470
R5035 10K
R5036 10K
2SA1162
Q5005
R5001 1/2W 82 FL
C5001 10/16
R5002 47K
1SS181-TLB
D5002
2SA1162
Q5001
R5006 3.3K 1/10W
R5003 47K
R5072 0
D5007 AEL1177-(RED)
R5004 820 1/2W
R5011 1.0K
R5073 0
D5008 SLR-56PC(LMN) (GREEN)
R5010 330K
PC5001 P1241-09
R5005 1.5K
2SC2712 Q5002
R5008 5.6K
R5007 27K
C5002 33/25
VR5001 47k
DPO ADJ
R5012 1.0K
R5013 47
R5014 100
R5015 180
R5016 300
R5017 560
R5019 1.0K
R5018 2.2K
R5020 6.2K
C5003 100/6.3
C5005 0.01
C5004 0.01
S5001 ASG1034-A-F POWER
S5002 ASG1034-A-F INPUT
S5003 ASG1034-A-F CH -
S5004 ASG1034-A-F CH +
S5005 ASG1034-A-F VOL -
S5006 ASG1034-A-F VOL +
S5007 ASG1034-A-F RETURN
S5008 ASG1034-A-E FACTORY

FRONT CONTROL ASSY
S5001 : STANDBY/ON
S5002 : INPUT SELECTOR
S5003 : CHANNEL –
S5004 : CHANNEL +
S5005 : VOLUME –
S5006 : VOLUME +
S5007 : RETURN
S5008 : FACTORY ADJ

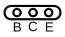
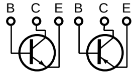
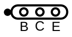
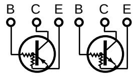
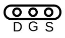
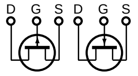
4. PCB CONNECTION DIAGRAM

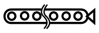
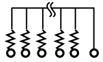
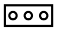
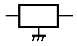
4.1 AV I/O, SR, BNC and FRONT INPUT ASSYS


D SR ASSY
YG-H2
AWZ6465
AWZ6478
CN5071 STB5V
P. GND
REM IN
L1
SR ASS'Y
(ANP1945–B)
R FRONT INPUT ASSY
FRONT INPUT ASS'Y
AWZ6471
AWZ6466
CN7404
CN5041
F2
F1
Q5041
Q5042
(ANP1945–B)
B AV I/O ASSY
A J2451 T12
A J2703 T2
STB5V
P GND
REMIN
REM OUT
PGND
GND
Y/1Y
Pb/1B_Y
Pr/1R_Y
DTV V /VIDEO
DTV L /NC
DTV R /NC
TV-2L
TV-2R
TVGND
TV-2V
TV-1L
TV-1R
TV-1V
VIDEO
L
Y
R
C
S2
S1
12V
NC
LD
A2
A3
A4
A5
A6
A7
C BNC ASSY
YG-A3
ANP1996-A
AWV1920-A
CN8001
VIDEO
GND
1R_Y
1B_Y
1Y
(ANP1996-A)
Q6031 Q6032
Q6005
Q6014–Q6016
Q6007 Q6006 Q6039 Q6033 Q6038
Q6024
Q6012
IC6001
Q602
Q6046
Q6030
Q6048
Q6047
Q6027
SIDE A

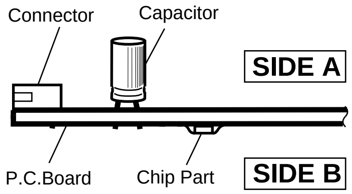
NOTE FOR PCB DIAGRAMS :

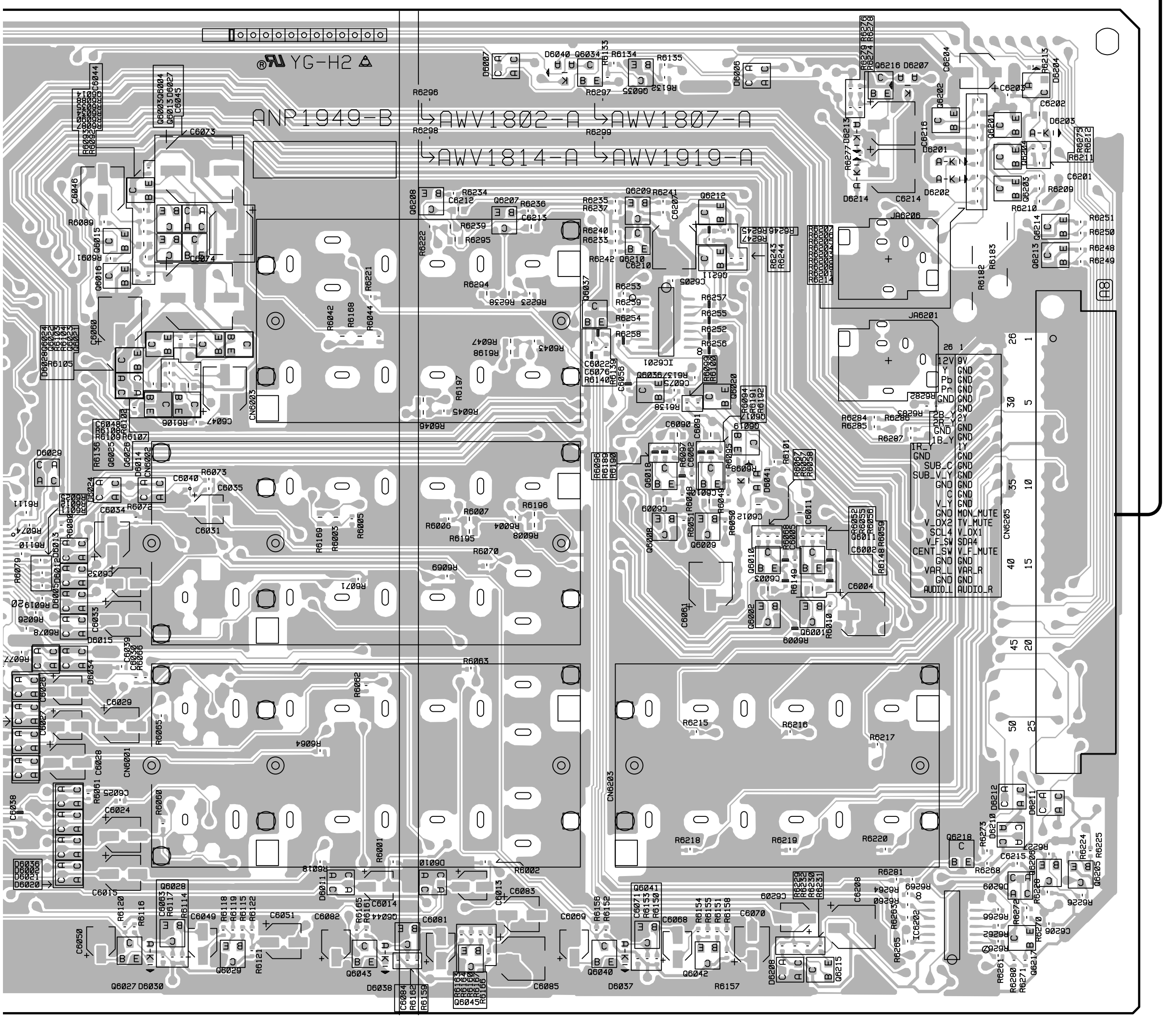
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
 B C E	 B C E B C E	Transistor
 B C E	 B C E B C E	Transistor with resistor
 D G S	 D G S D G S	Field effect transistor

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.


Connector
Capacitor
SIDE A
P.C.Board
Chip Part
SIDE B


E
CN5601
U9
ANP1949-B
AWV1802-A
AWV1807-A
AWV1814-A
AWV1919-A
YG-H2
CN6205
JA6201
JA6206
IC6001
CN6001
CN6003
CN6203
IC6202

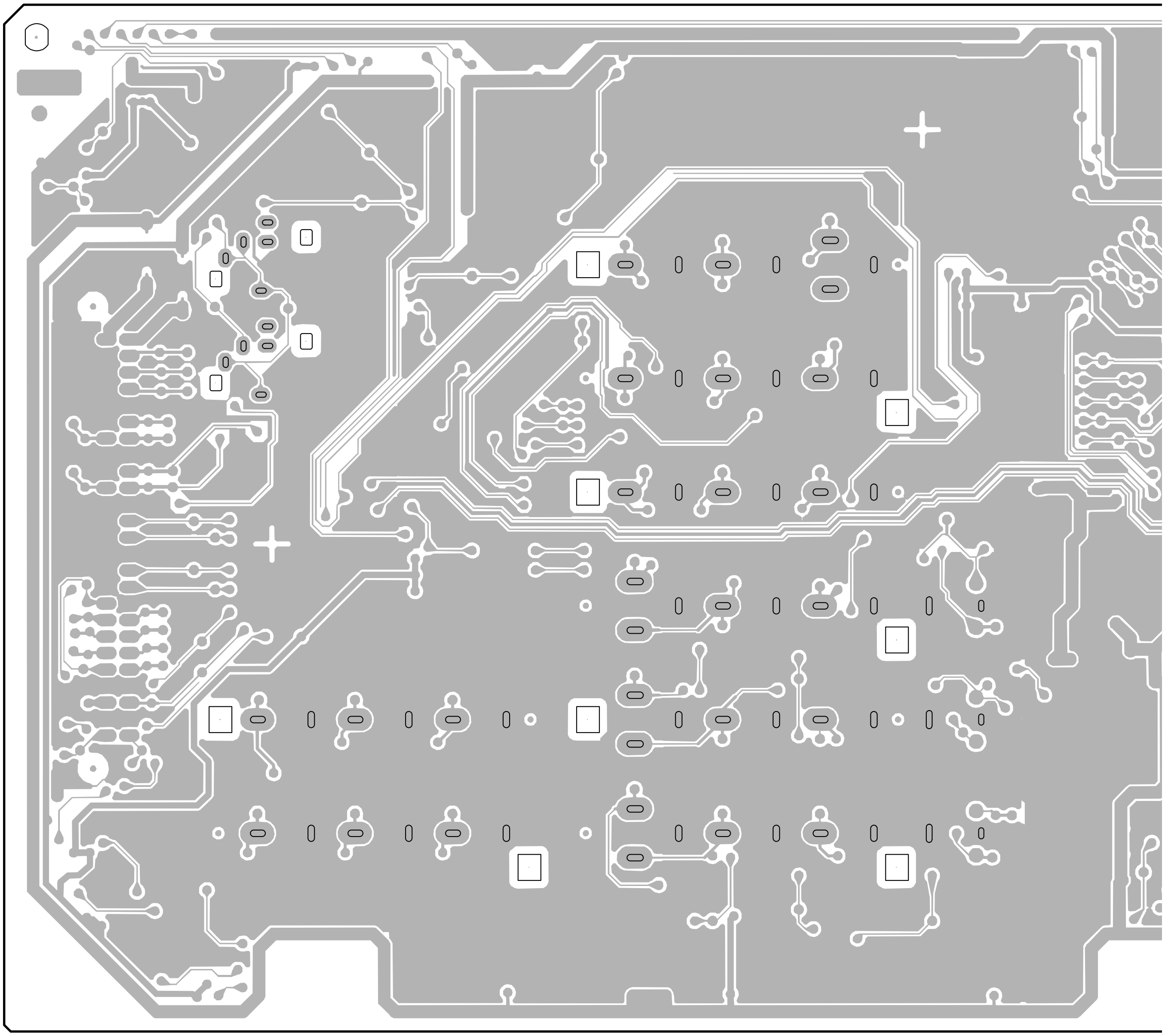
(ANP1949–B)

Q6235 Q6216
Q6014–Q6016 Q6004 Q6003 Q6013 Q6208 Q6207 Q6209–Q6212 Q6201–Q6204 Q6214 Q6213
038 Q6024 Q6022 Q6023 Q6021 Q6037 Q6036 Q6020 Q6002 Q6001
Q6028 Q6025 Q6026 Q6008 Q6018 Q6017 Q6009 Q6010 Q6011
Q6218 Q6205
Q6027 Q6028 Q6029 Q6043 Q6044 Q6045 Q6040 Q6041 Q6042 Q6215 IC6202 Q6217

A

B AV I/O ASSY

B

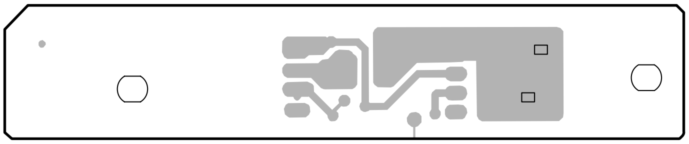


C

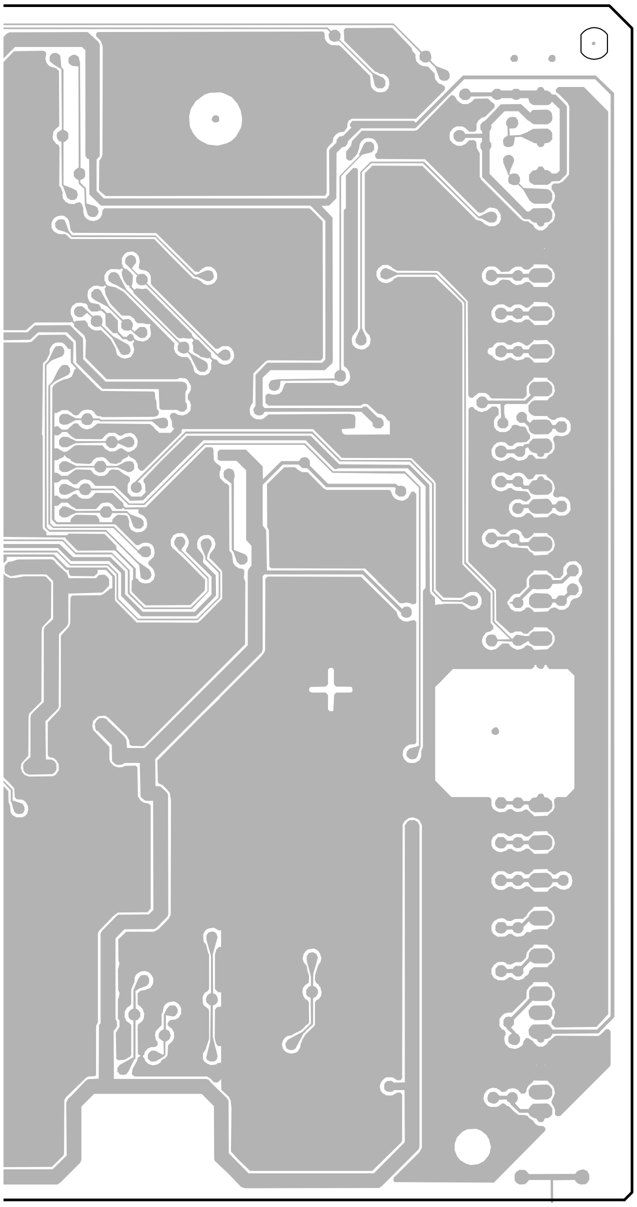
D

SIDE B

D SR ASSY

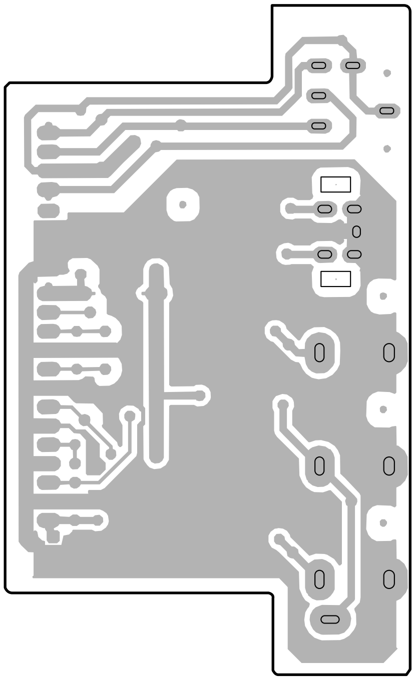


(ANP1945–B)



(ANP1949–B)

R FRONT INPUT ASSY

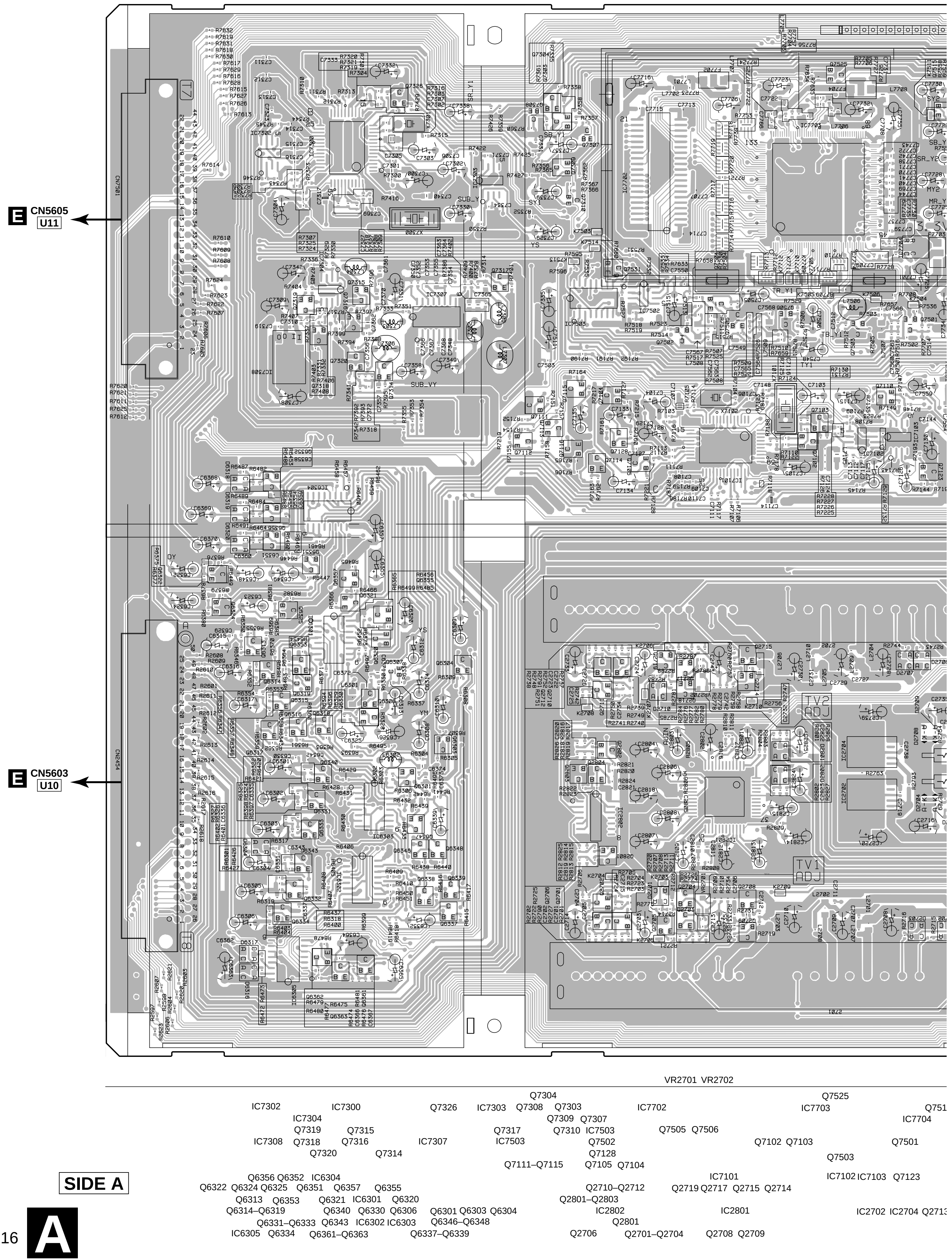


(ANP1945–B)

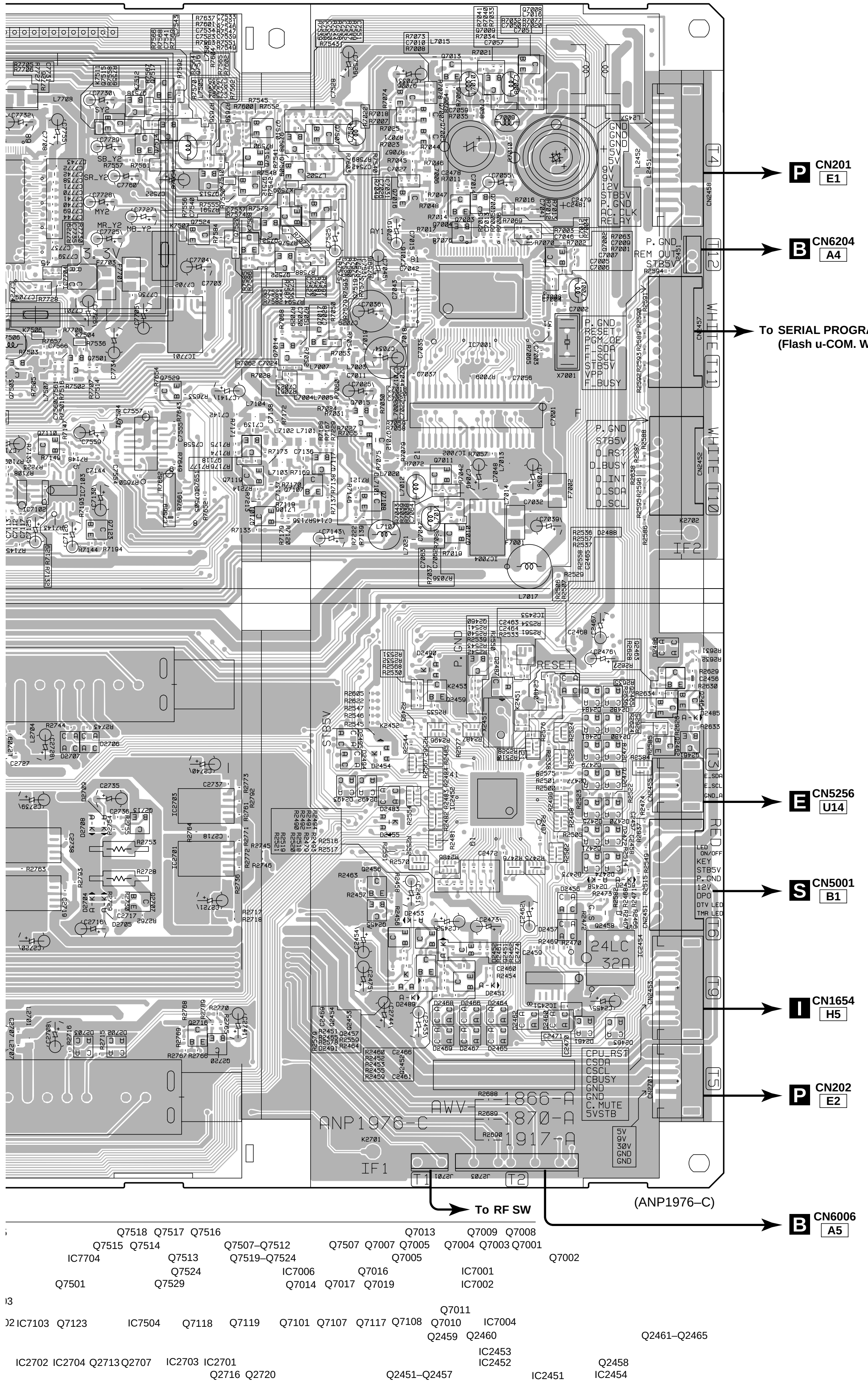
4.2 SIGNAL ASSY

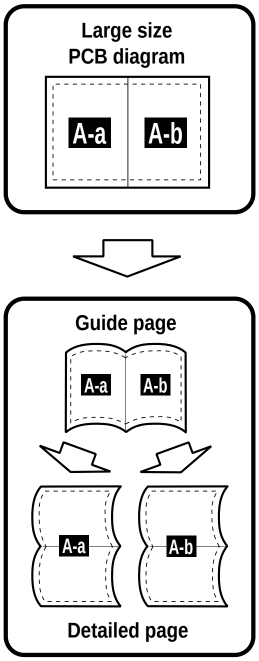
A-a

A SIGNAL ASSY


E CN5605 U11
E CN5603 U10
TV2 ADJ
TV1 ADJ
VR2701 VR2702
IC7302
IC7300
Q7326
IC7303
Q7304
Q7308
Q7303
IC7702
Q7525
IC7703
Q751
IC7304
Q7309
Q7307
IC7704
Q7319
Q7315
Q7317
Q7310
IC7503
Q7505
Q7506
IC7308
Q7318
Q7316
IC7307
IC7503
Q7502
Q7102
Q7103
Q7501
Q7320
Q7314
Q7128
Q7503
Q7111–Q7115
Q7105
Q7104
SIDE A
Q6356
Q6352
IC6304
IC7101
IC7102
IC7103
Q7123
Q6322
Q6324
Q6325
Q6351
Q6357
Q6355
Q2710–Q2712
Q2719
Q2717
Q2715
Q2714
Q6313
Q6353
Q6321
IC6301
Q6320
Q2801–Q2803
Q6314–Q6319
Q6340
Q6330
Q6306
Q6301
Q6303
Q6304
IC2802
IC2801
IC2702
IC2704
Q2713
Q6331–Q6333
Q6343
IC6302
IC6303
Q6346–Q6348
Q2801
IC6305
Q6334
Q6361–Q6363
Q6337–Q6339
Q2706
Q2701–Q2704
Q2708
Q2709

A-b


P CN201 E1
B CN6204 A4
To SERIAL PROGRAMER
(Flash u-COM. Writer)
E CN5256 U14
S CN5001 B1
I CN1654 H5
P CN202 E2
B CN6006 A5
To RF SW
(ANP1976–C)
ANP1976-C
AWV-1866-A
AWV-1870-A
AWV-1917-A
IF1
IF2
Q7518 Q7517 Q7516
Q7515 Q7514
IC7704
Q7513
Q7524
Q7501
Q7529
Q7507–Q7512
Q7519–Q7524
IC7006
Q7014
Q7507 Q7007 Q7005
Q7005
Q7016
Q7017 Q7019
Q7013
Q7009 Q7008
Q7004 Q7003 Q7001
Q7002
IC7001
IC7002
IC7103 Q7123
IC7504
Q7118
Q7119
Q7101 Q7107 Q7117 Q7108
Q7011
Q7010
Q2459 Q2460
IC7004
Q2461–Q2465
IC2702 IC2704 Q2713 Q2707
IC2703 IC2701
Q2716 Q2720
Q2451–Q2457
IC2453
IC2452
IC2451
Q2458
IC2454

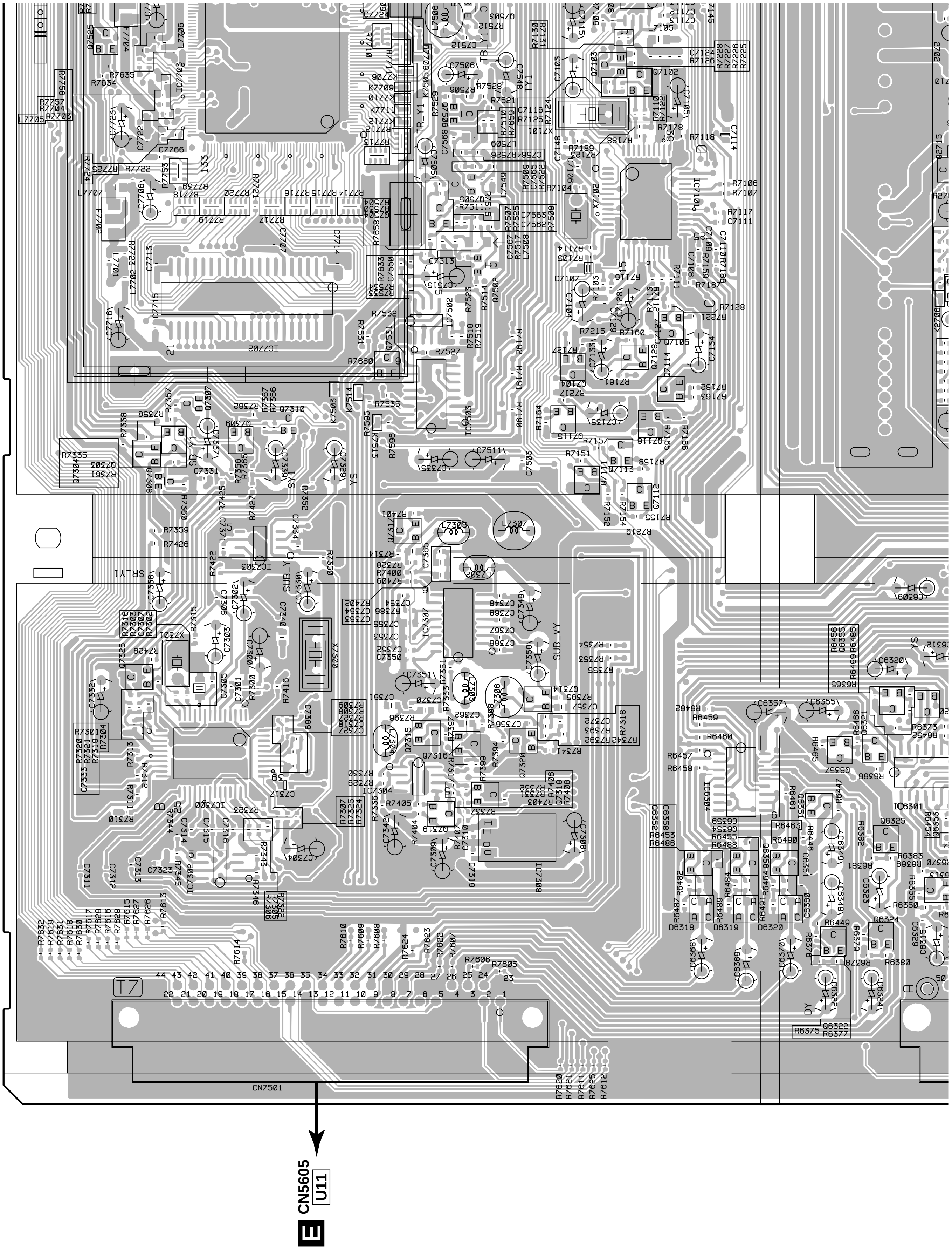

Large size
PCB diagram
A-a
A-b
Guide page
A-a
A-b
A-a
A-b
Detailed page

A

B

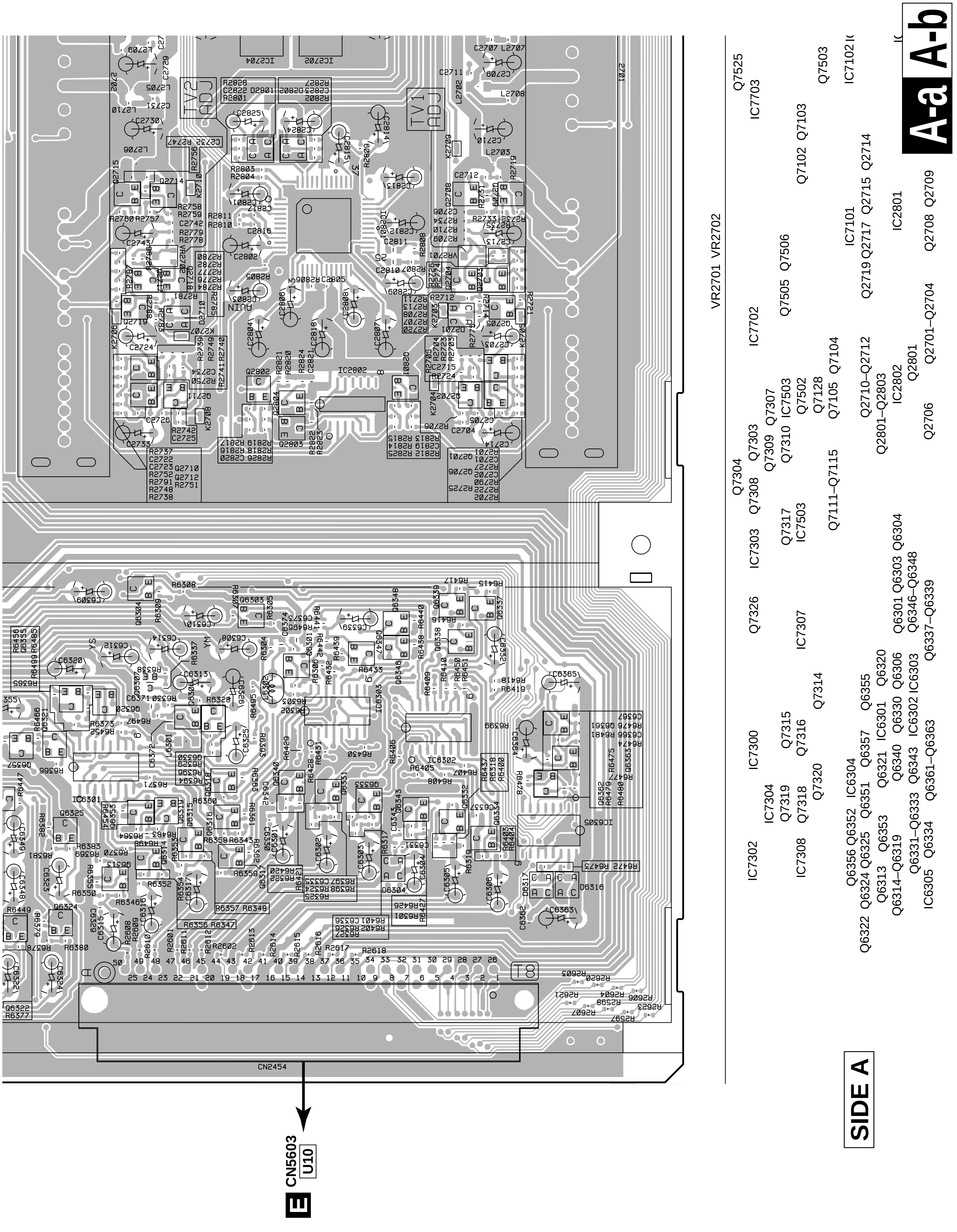
C

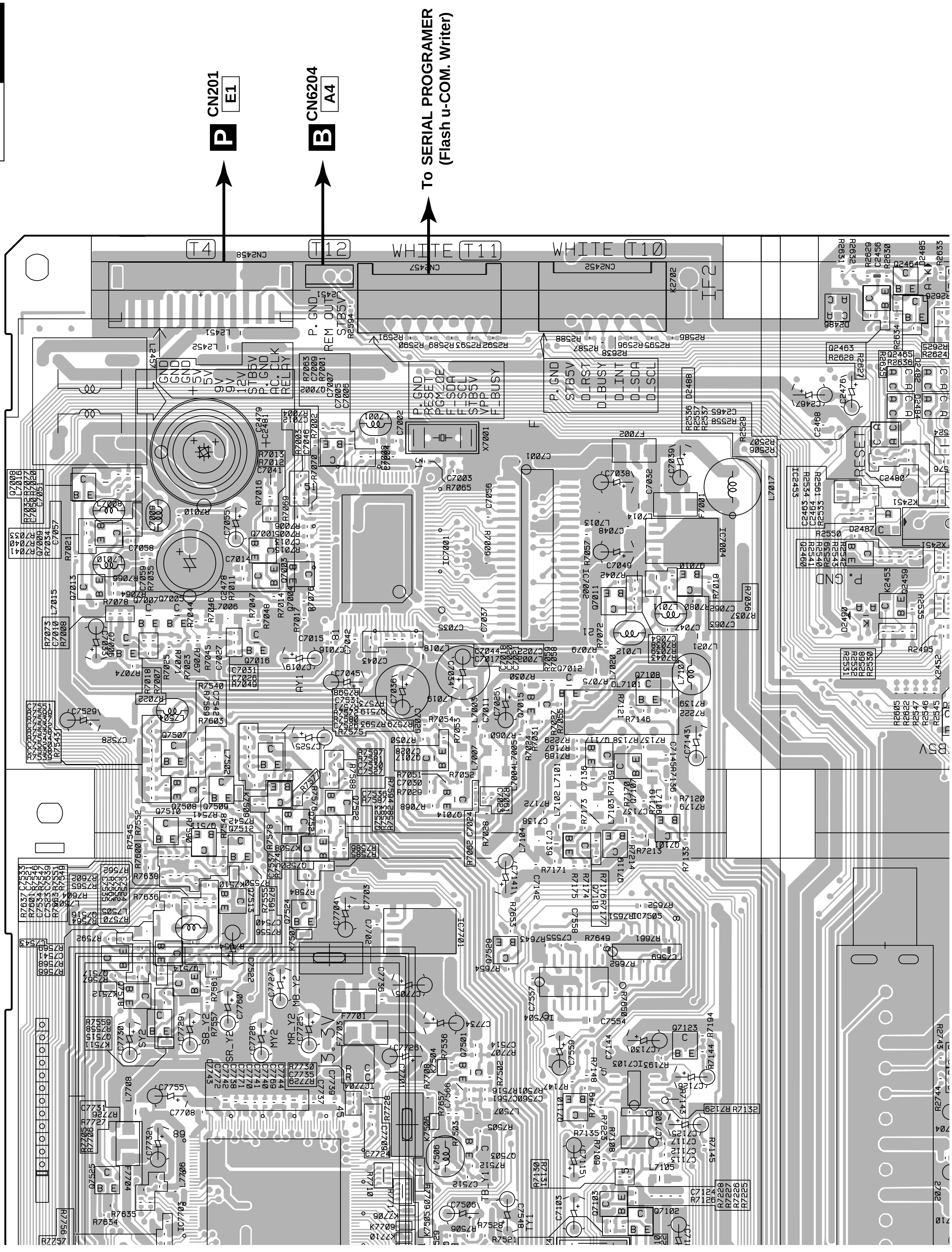
D

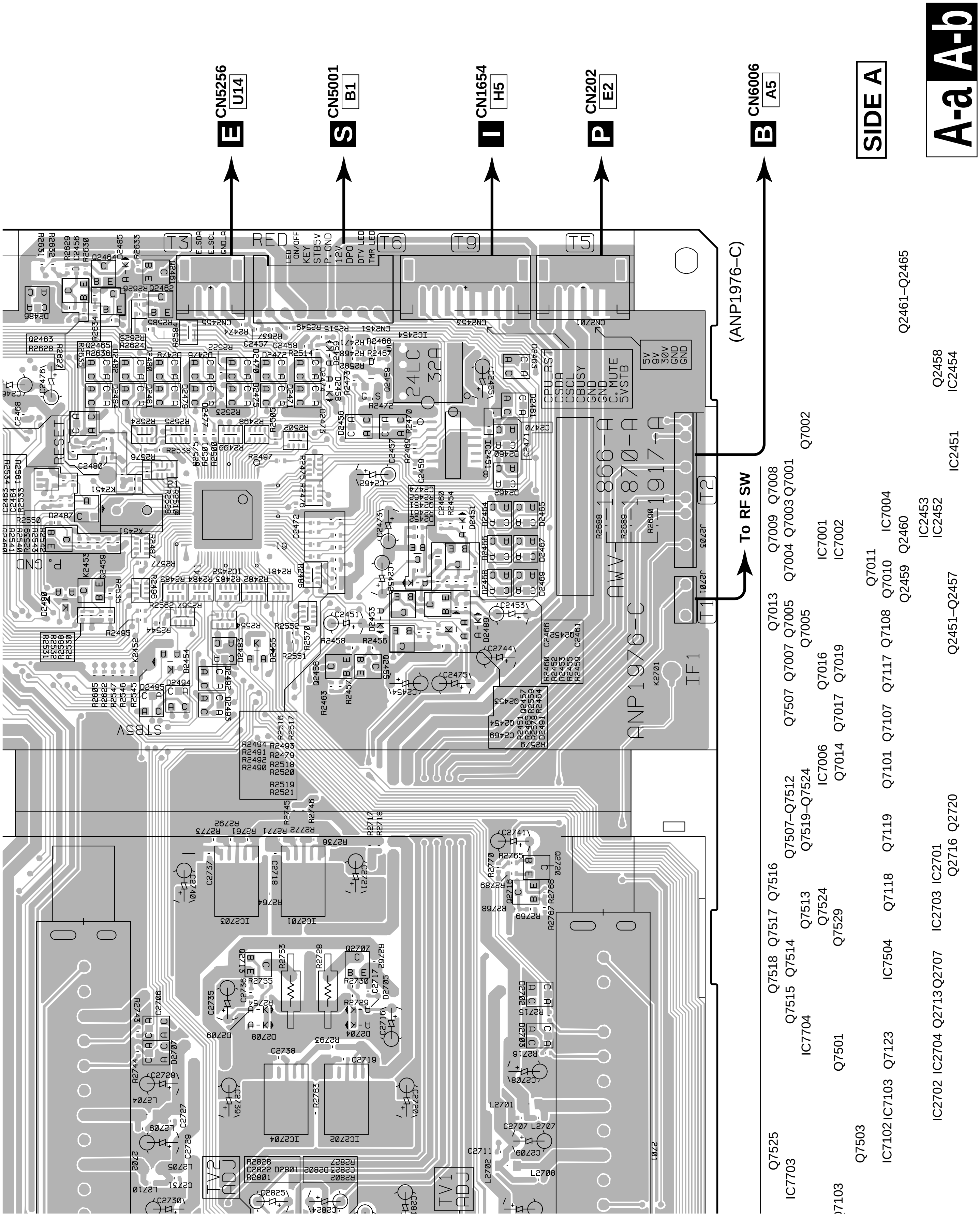

CN7501
IC7702
IC7101
IC7307
IC7308
IC7304
IC7300
IC7302
IC7303
IC7502
IC7503
IC6304
IC6301
X7101
X7102
X7300
X7301
T7
CN5605
U11
E

A SIGNAL ASSY

A-a A-b

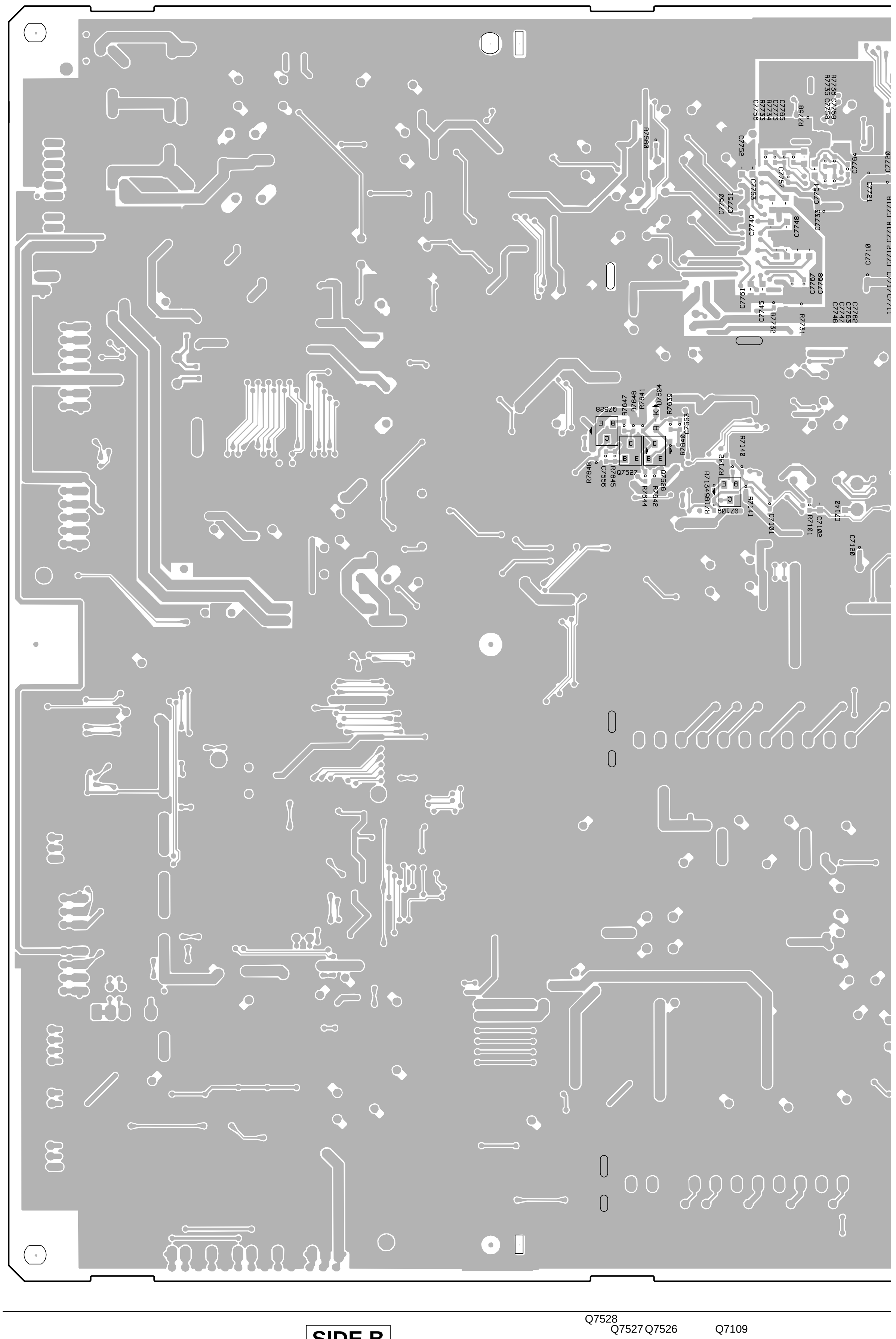

A-a A-b
SIDE A
CN2454
E CN5603 U10
TV1 ADJ
TV2 ADJ
IC2801
IC2802
IC6301
IC6302
IC6303
IC6305
VR2701 VR2702
Q7525
IC7703
IC7702
Q7304
Q7308
IC7303
Q7326
IC7300
IC7304
IC7302
Q7303
Q7309 Q7307
Q7310 IC7503
Q7317
IC7503
IC7307
Q7315
Q7316
Q7319
Q7318
IC7308
Q7320
Q7314
Q7503
Q7103
Q7102
Q7506
Q7505
Q7502
Q7128
Q7104
Q7105
Q7111–Q7115
IC7102
IC7101
Q2714
Q2715
Q2717
Q2719
Q2710–Q2712
Q2801–Q2803
IC2801
Q2709
Q2708
Q2704
Q2701–Q2704
Q2801
IC2802
Q2706
Q6301 Q6303 Q6304
Q6346–Q6348
Q6337–Q6339
Q6320
Q6306
IC6303
Q6355
Q6330
IC6302
IC6301
Q6357
Q6321
Q6340
Q6343
Q6361–Q6363
IC6304
Q6351
Q6353
Q6331–Q6333
Q6334
Q6356 Q6352
Q6324 Q6325
Q6313
Q6314–Q6319
IC6305
Q6322
5
6
7
8
A
B
C
D


P
CN201
E1
B
CN6204
A4
To SERIAL PROGRAMER
(Flash u-COM. Writer)
T4
T12
WHITE T11
WHITE T10
CN2458
CN2457
CN2452
IF2
P.GND
REM OUT
STB5V
GND
GND
GND
+5V
5V
9V
9V
12V
STB5V
P.GND
RC.CLK
RELAY
P.GND
RESET
PGM_OE
F_SDA
F_SCL
STB5V
VPP
F_BUSY
P.GND
STB5V
D_RST
D_BUSY
D_INT
D_SDA
D_SCL
RESET
P.GND
IC7001
IC7004
IC7701
X7001
B5V


A-a A-b
SIDE A
E CN5256 U14
S CN5001 B1
I CN1654 H5
P CN202 E2
B CN6006 A5
(ANP1976–C)
To RF SW
AWV1866-A
1870-A
1917-A
ANP1976-C
IF1
T1
T2
T3
T5
T6
T9
RED
RESET
STB5V
P.GND
TV1 ADJ
TV2 ADJ
24LC32A
E.SDA
E.SCL
GND_A
LED ON/OFF
KEY
STB5V
P.GND
12V
DPO
DTV LED
TMR LED
CPU_RST
CSDA
CSCL
CBUSY
GND
GND
C.MUTE
5VSTB
5V
9V
30V
GND
GND
Q2461–Q2465
Q2458
IC2454
Q7002
IC2451
Q7008
Q7001
Q7009
Q7003
Q7004
IC7001
IC7002
IC7004
IC2453
IC2452
Q2460
Q7011
Q7010
Q2459
Q7013
Q7005
Q7005
Q7108
Q2451–Q2457
Q7007
Q7016
Q7019
Q7117
Q7507
Q7017
Q7107
IC7006
Q7014
Q7101
Q7507–Q7512
Q7519–Q7524
Q7119
IC2701
Q2720
Q7516
Q7513
Q7524
Q7529
Q7118
IC2703
Q2716
Q7517
Q7518
Q7514
IC7504
Q2707
Q7515
IC7704
Q7501
Q7123
IC2704
Q2713
IC7103
IC2702
Q7525
Q7503
IC7102
IC7703
Q7103

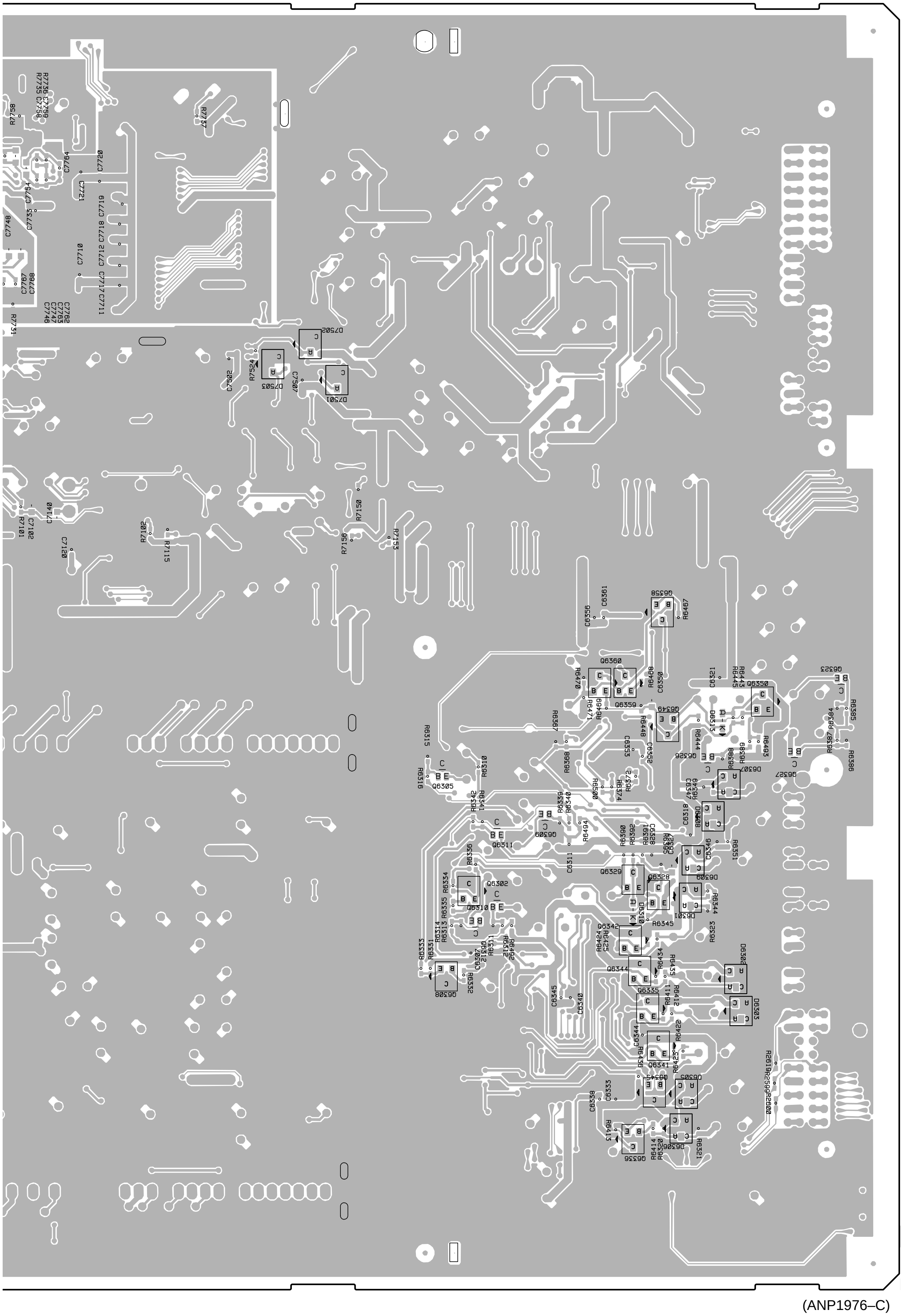
A SIGNAL ASSY

A-a


R7560
Q7528
R7647
R7646
R7641
D7504
R7639
C7553
R7640
Q7527
Q7526
R7648
C7556
R7645
R7644
R7642
R7140
R7142
R7143
R7105
Q7109
R7141
C7101
C7102
R7101
C7100
C7120
C7752
C7750
C7751
C7753
C7749
C7748
C7733
C7754
C7757
C7761
C7745
R7732
R7731
C7767
C7768
C7762
C7747
C7746
C7710
C7721
C7764
C7720
R7736
R7735
C7759
C7758
C7765
R7734
R7733
C7756
Q7528
Q7527
Q7526
Q7109

SIDE B

A-b

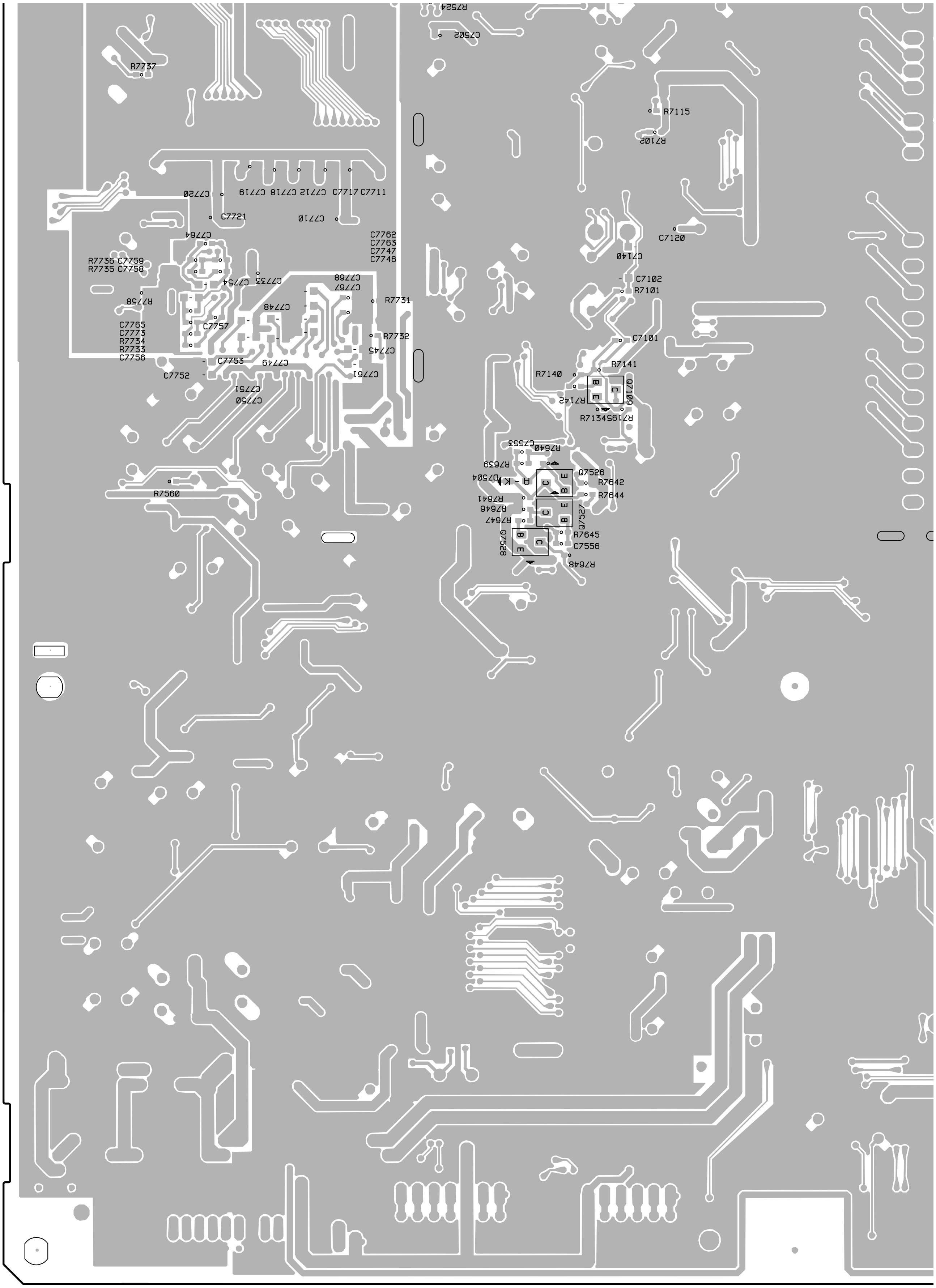


(ANP1976–C)

Q6305 Q6311 Q6309 Q6360 Q6359 Q6358 Q6350 Q6327 Q6325
Q6302 Q6349 Q6326
Q6308 Q6310 Q6329 Q6328
Q6344 Q6335
Q6341
Q6336 Q6345

A-a A-b

A SIGNAL ASSY


A
B
C
D
R7524
C7502
R7737
R7115
R7102
C7720
C7719
C7718
C7712
C7717
C7711
C7721
C7710
C7764
C7762
C7763
C7747
C7746
C7120
C7140
R7736
C7759
R7735
C7758
C7733
C7754
C7768
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R7101
R7758
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R7731
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C7757
C7773
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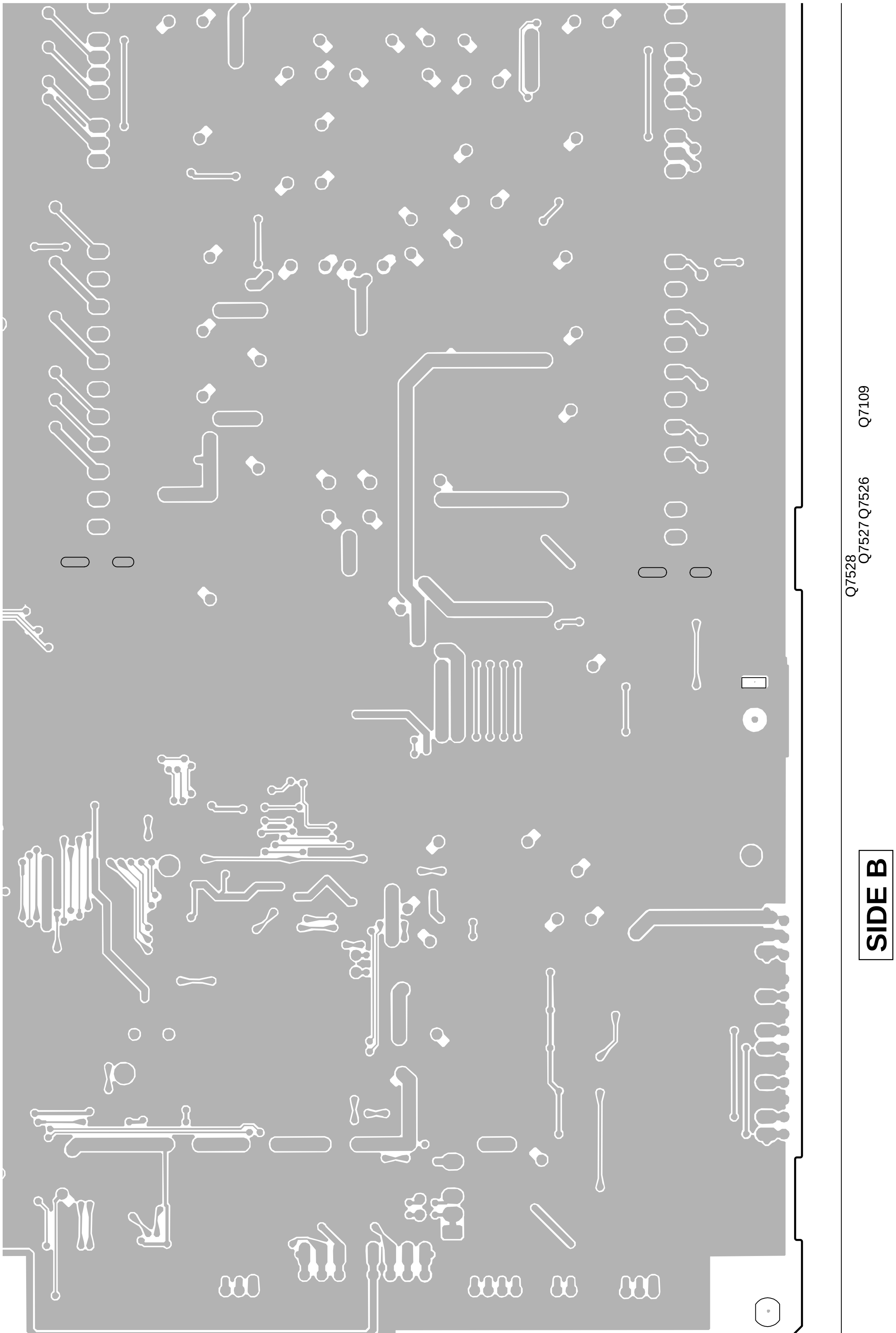
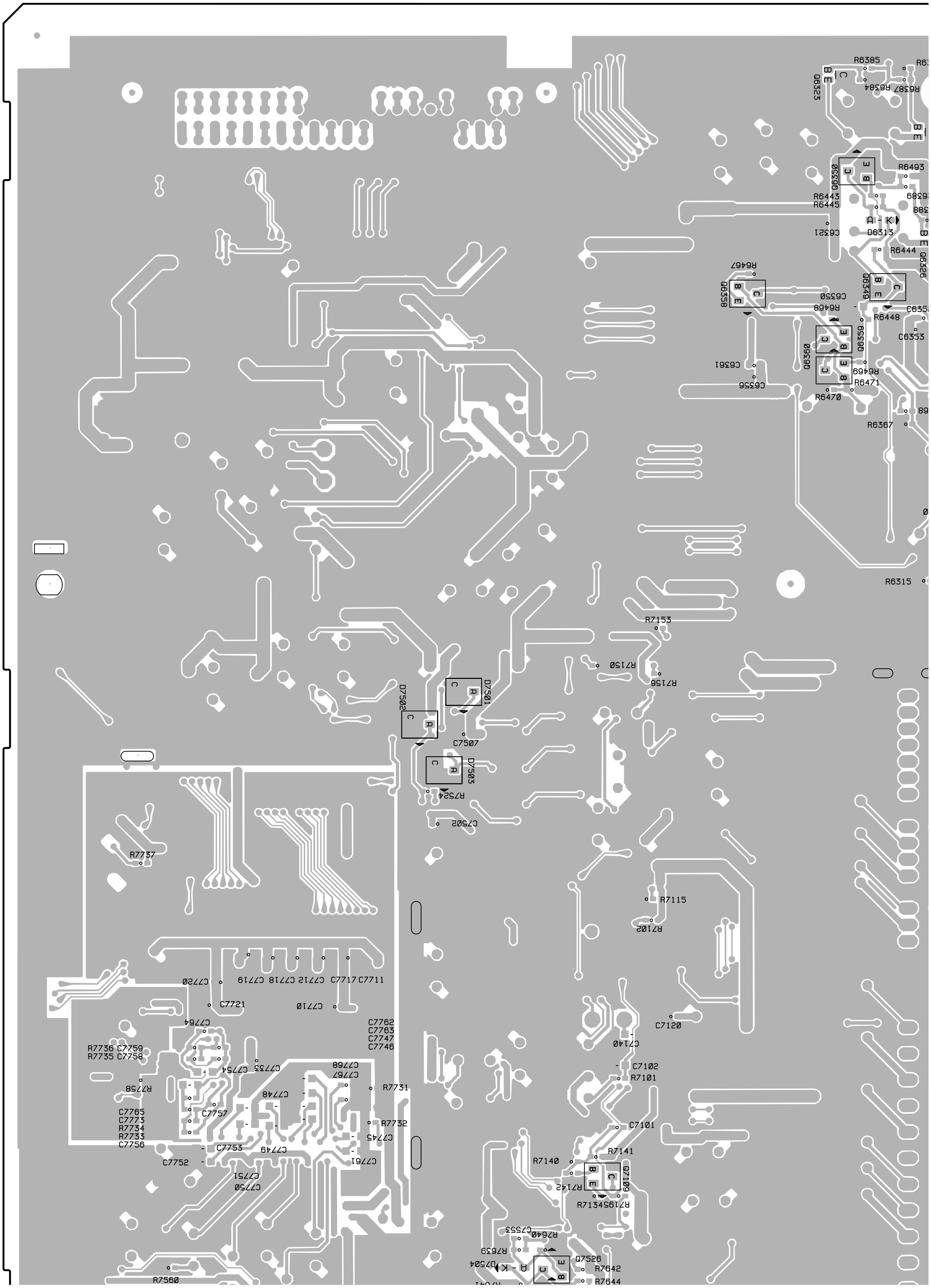
R7732
C7745
C7101
C7753
C7749
R7140
R7141
C7752
C7761
C7751
C7750
R7142
Q7109
R7134
C7553
R7640
R7639
Q7526
D7504
A K
R7642
R7644
R7641
R7646
R7647
Q7527
R7645
Q7528
C7556
R7648
R7560
B C E


Q7109
Q7526
Q7527
Q7528
SIDE B

A-a A-b

A-a A-b


R6385
Q6323
R6384
R6387
Q6350
R6493
R6443
R6445
C6321
D6313
R6444
Q6326
R6467
Q6358
C6350
R6468
Q6349
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R6367
R6315
R7153
R7150
R7156
D7501
D7502
C7507
D7503
R7524
C7502
R7737
R7115
R7102
C7720
C7719
C7718
C7712
C7717
C7711
C7721
C7710
C7764
C7762
C7763
C7747
C7746
R7736
C7759
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C7750
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C7140
C7102
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C7101
R7141
R7140
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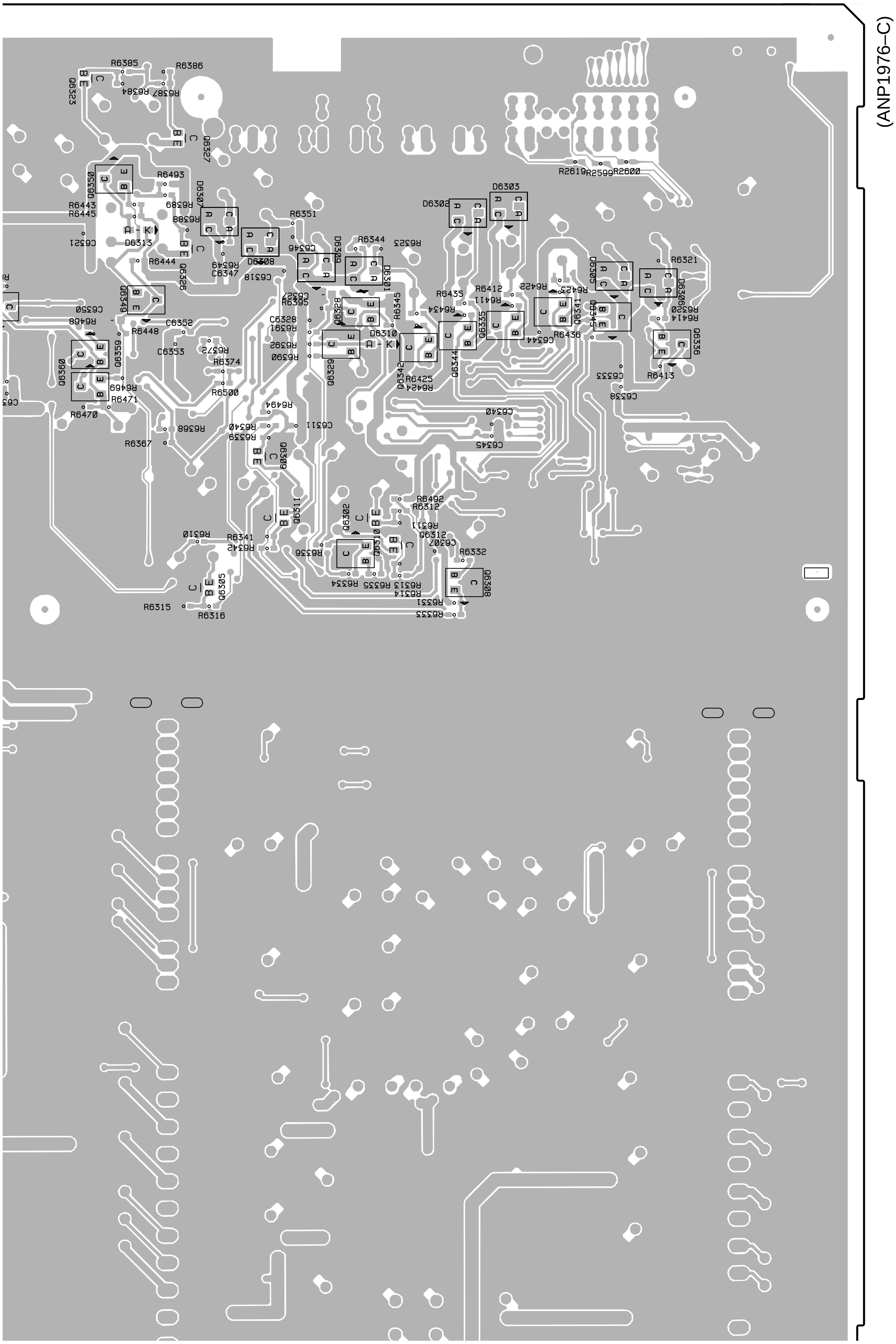
D7504
R7642
R7644
R7560


(ANP1976–C)
R6385
R6386
Q6323
R6384
R6387
Q6327
R6493
Q6350
R6443
R6445
C6521
D6313
R6444
R6389
R6388
D6307
R6351
R6349
C6347
D6308
C6318
C6346
D6309
R6344
R6325
D6301
D6302
D6303
R2619
R2599
R2600
Q6326
Q6349
C6350
R6468
R6448
C6352
C6353
R6572
R6374
Q6359
Q6360
R6469
R6471
R6470
R6500
C6328
R6391
R6592
R6390
R6595
Q6328
R6345
D6310
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Q6342
R6425
R6424
Q6344
R6435
R6434
R6412
R6411
R6422
R6423
Q6335
Q6341
Q6345
C6344
R6436
D6305
D6306
R6321
R6320
R6414
Q6336
R6413
C6333
C6338
C6340
C6345
R6494
R6340
R6339
C6311
R6368
R6367
Q6309
Q6311
R6492
R6312
R6311
Q6312
C6307
Q6302
Q6310
R6336
R6341
R6342
R6310
R6332
Q6308
R6313
R6335
R6334
R6314
R6331
R6333
Q6305
R6315
R6316
A
B
C
D

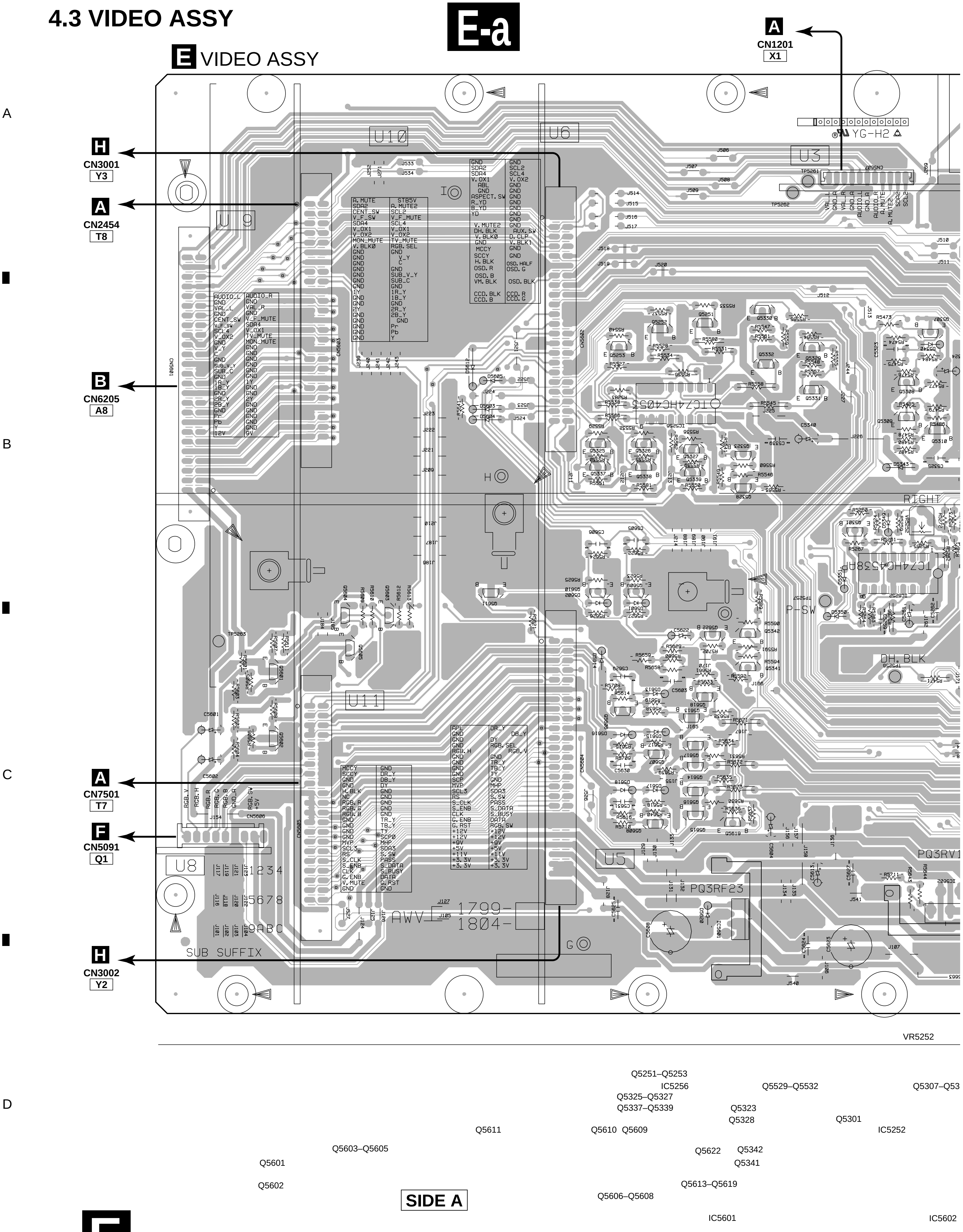
Q6325 Q6327 Q6350 Q6326
Q6358 Q6349 Q6328 Q6329 Q6335 Q6344 Q6341 Q6345 Q6336
Q6359 Q6360 Q6309 Q6311 Q6302 Q6310 Q6305 Q6308
Q7109 Q7526

A-a A-b

SIDE B

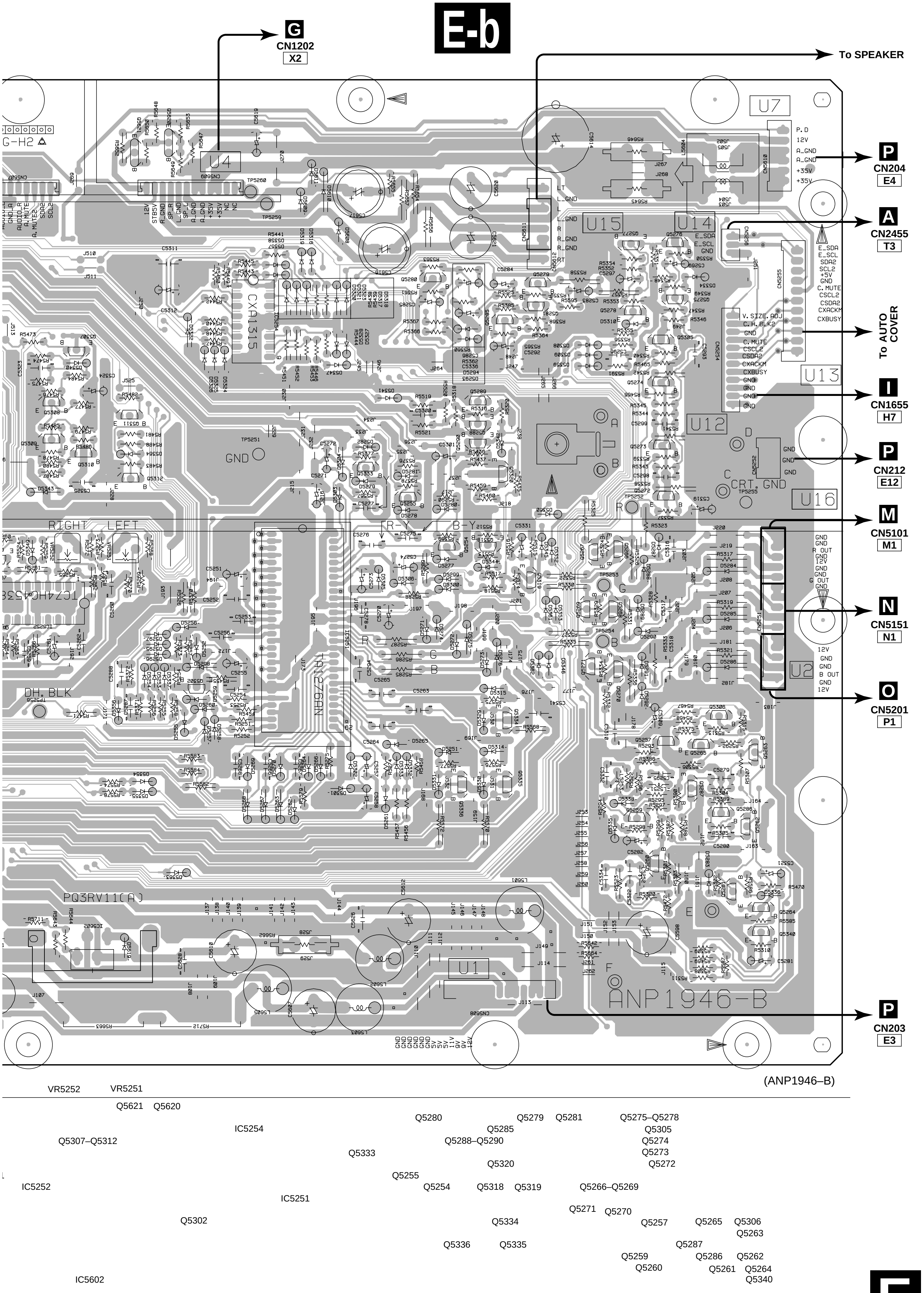
4.3 VIDEO ASSY

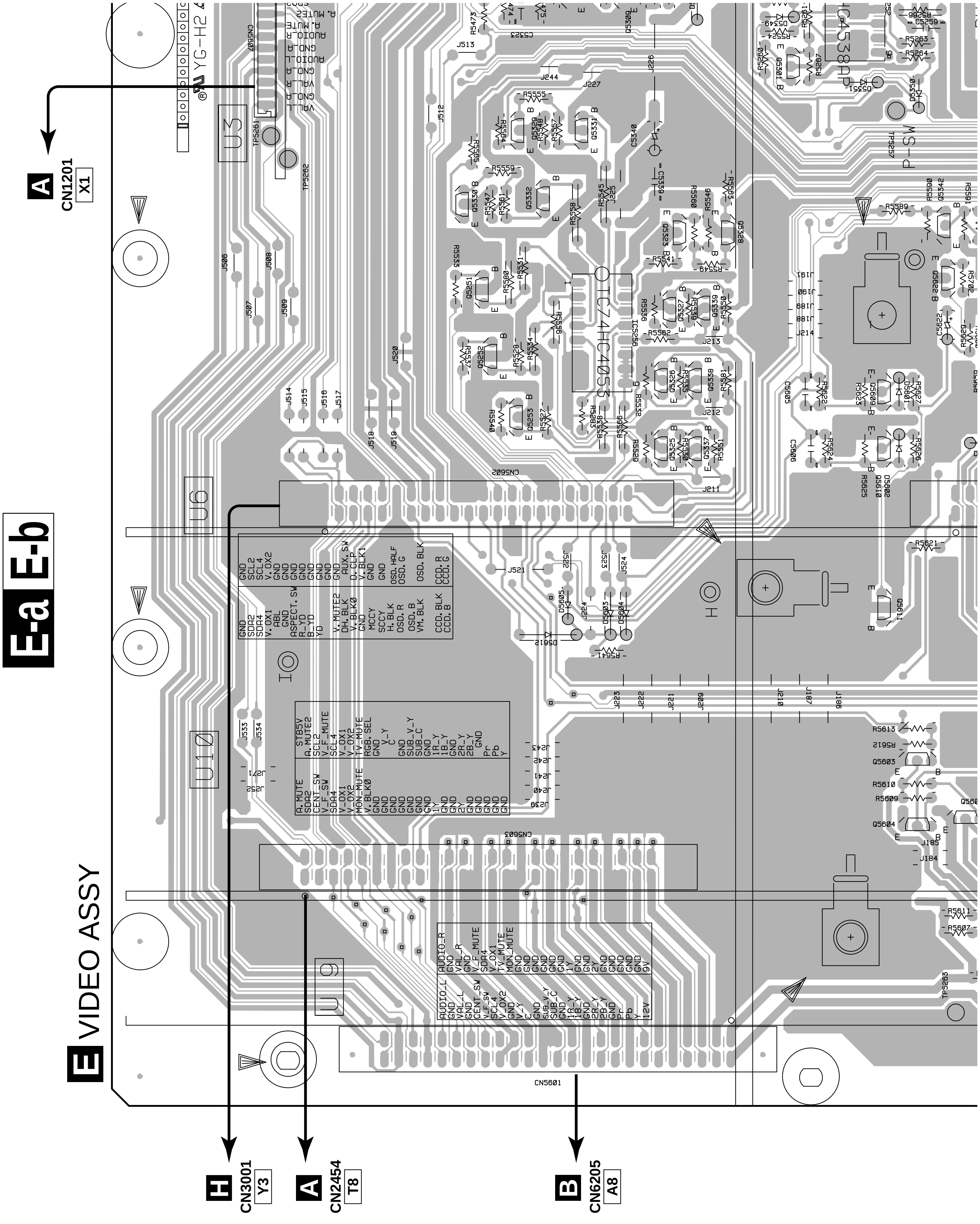
E-a

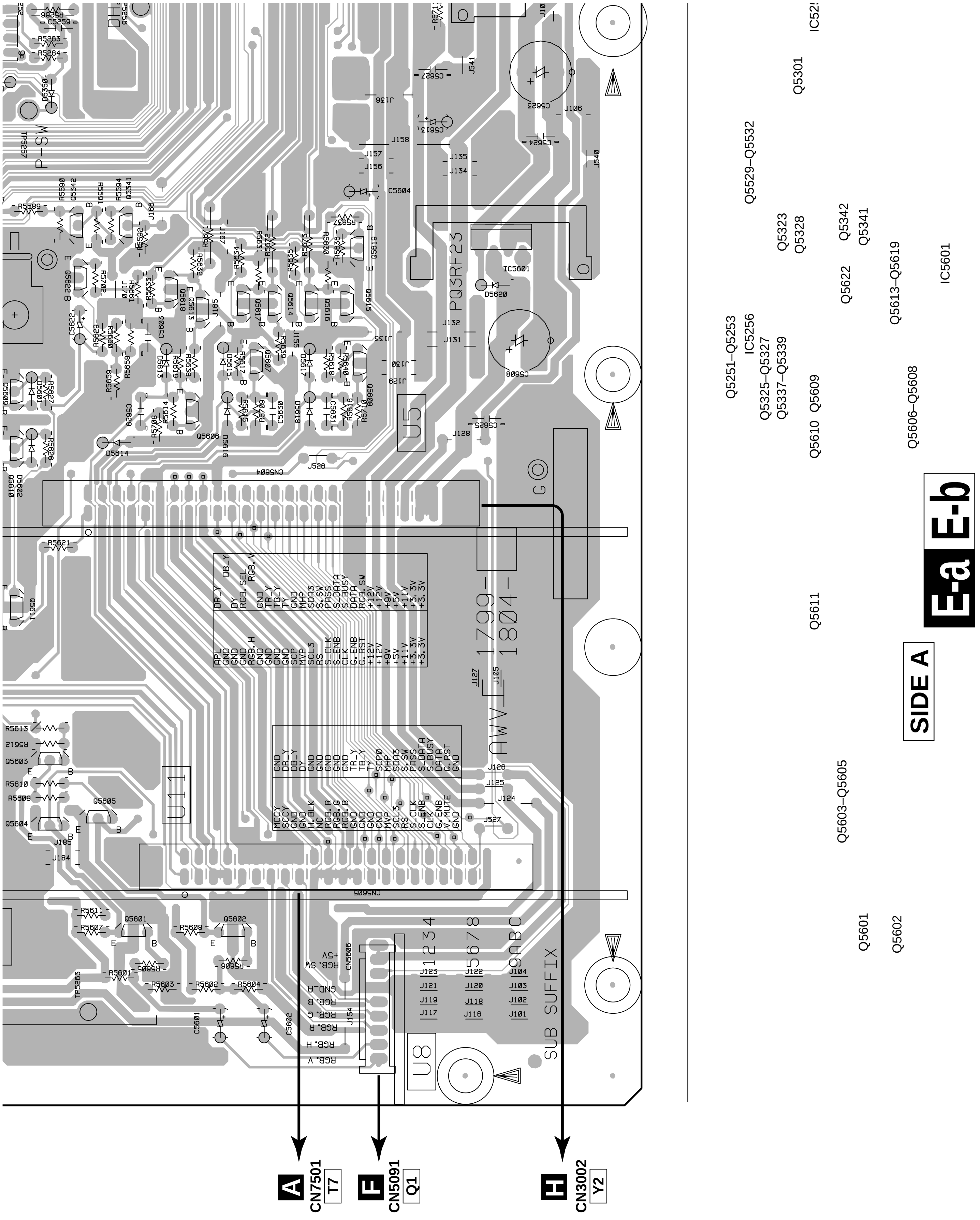

E VIDEO ASSY
A
CN1201
X1
H
CN3001
Y3
A
CN2454
T8
B
CN6205
A8
A
CN7501
T7
F
CN5091
Q1
H
CN3002
Y2
A
B
C
D
U10
U6
U3
U9
U11
U8
U5
YG-H2
RIGHT
P-SW
DH. BLK
PQ3RF23
PQ3RV1
TC74HC4053
TC74HC4538AP
AWV 1799-
1804-
SUB SUFFIX
1234
5678
9ABC
VR5252
Q5251–Q5253
IC5256
Q5529–Q5532
Q5307–Q53
Q5325–Q5327
Q5337–Q5339
Q5323
Q5328
Q5301
Q5611
Q5610
Q5609
IC5252
Q5603–Q5605
Q5622
Q5342
Q5601
Q5341
Q5602
Q5613–Q5619
Q5606–Q5608
IC5601
IC5602

SIDE A

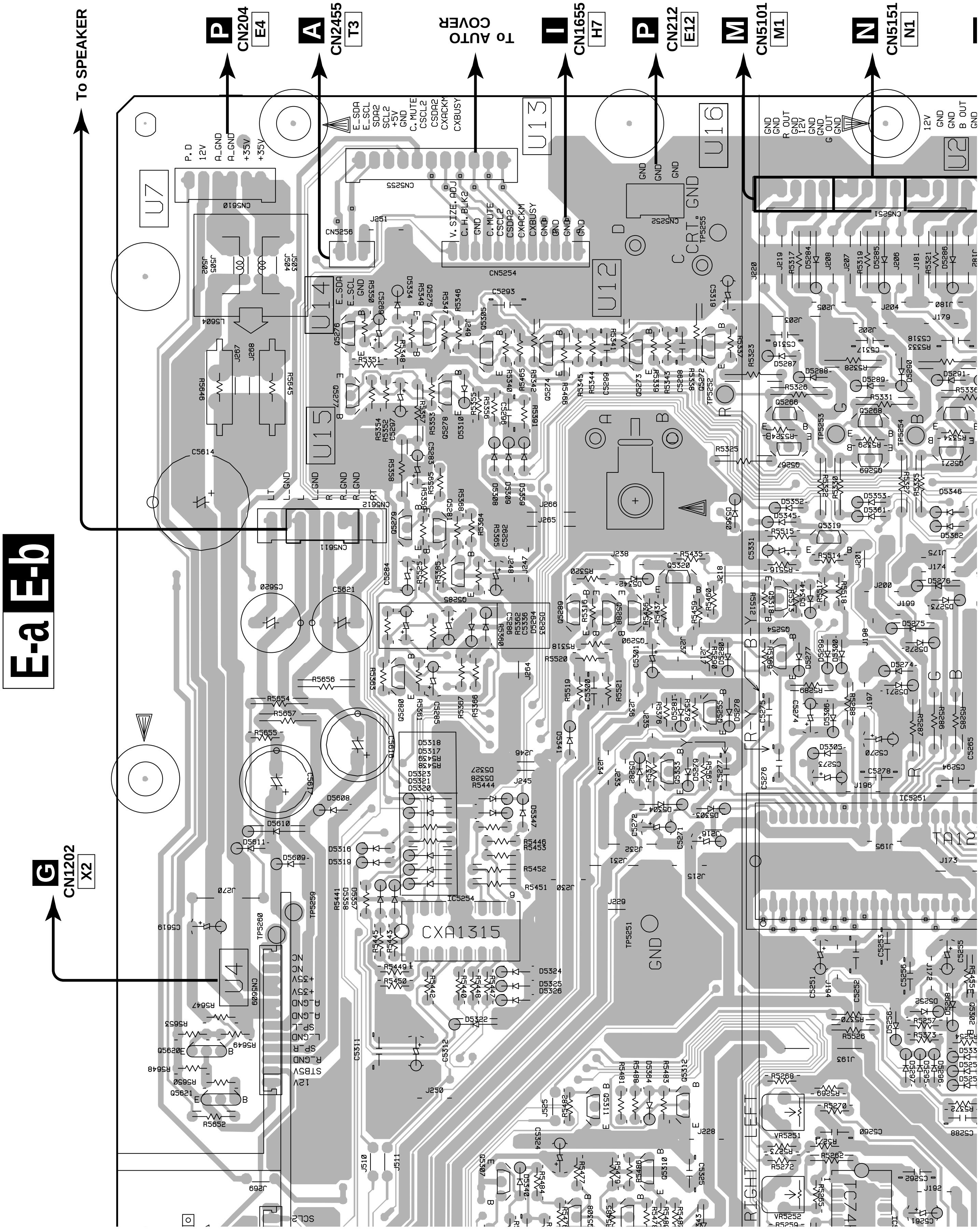
E-b

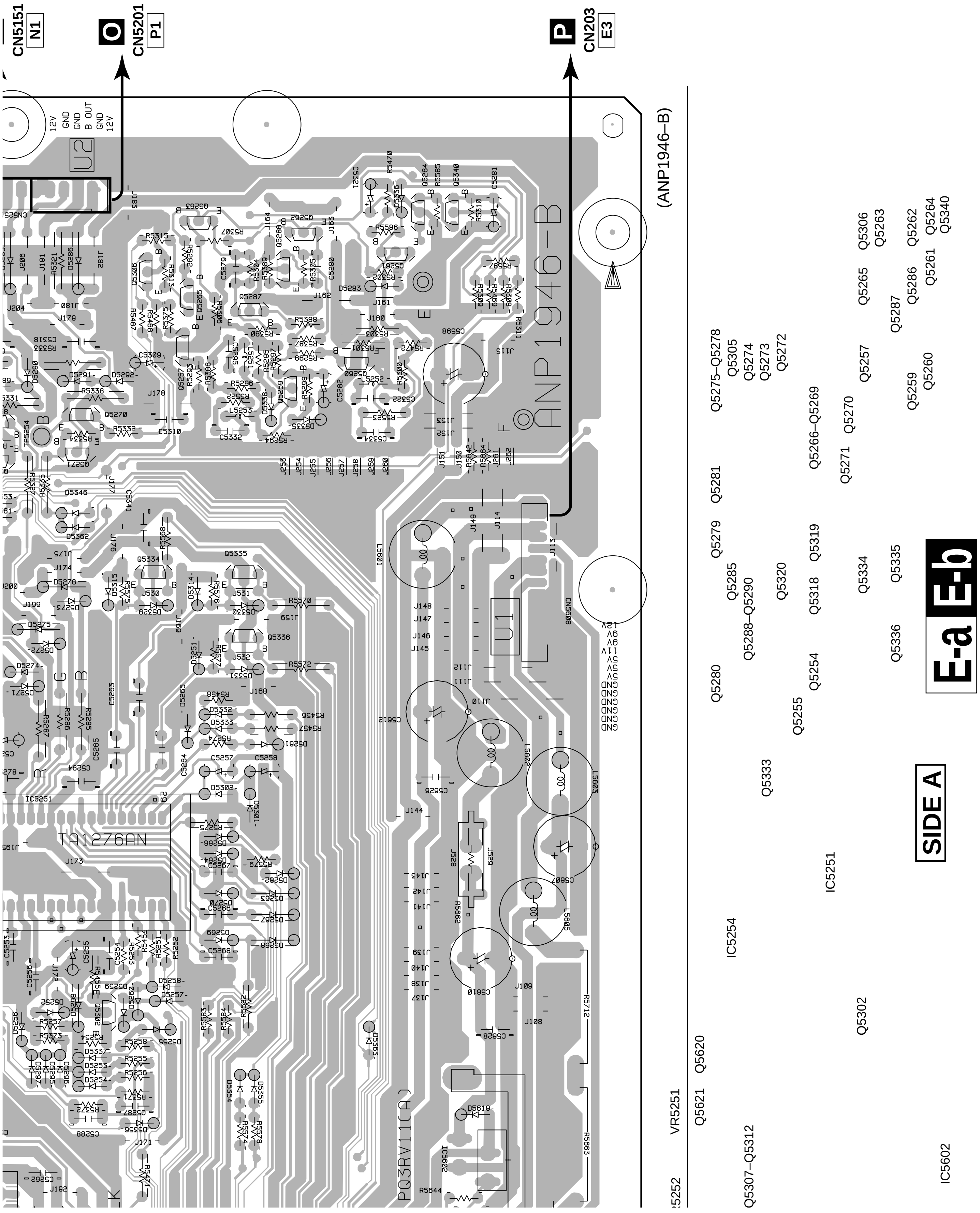

G
CN1202
X2
To SPEAKER
P
CN204
E4
A
CN2455
T3
To AUTO COVER
I
CN1655
H7
P
CN212
E12
M
CN5101
M1
N
CN5151
N1
O
CN5201
P1
P
CN203
E3
ANP1946-B
(ANP1946–B)
VR5252
VR5251
Q5621
Q5620
Q5280
Q5279
Q5281
Q5275–Q5278
IC5254
Q5285
Q5305
Q5307–Q5312
Q5288–Q5290
Q5274
Q5333
Q5273
Q5320
Q5272
Q5255
IC5252
Q5254
Q5318
Q5319
Q5266–Q5269
IC5251
Q5271
Q5270
Q5302
Q5334
Q5257
Q5265
Q5306
Q5263
Q5336
Q5335
Q5287
Q5259
Q5286
Q5262
Q5260
Q5261
Q5264
Q5340
IC5602


E VIDEO ASSY
E-a
E-b
A
CN1201
X1
H
CN3001
Y3
A
CN2454
T8
B
CN6205
A8
CN5601
CN5602
CN5603
CN5607
TC74HC4053
IC4538AP
U3
U6
U10
U9
YG-H2
TP5261
TP5262
TP5257
TP5263

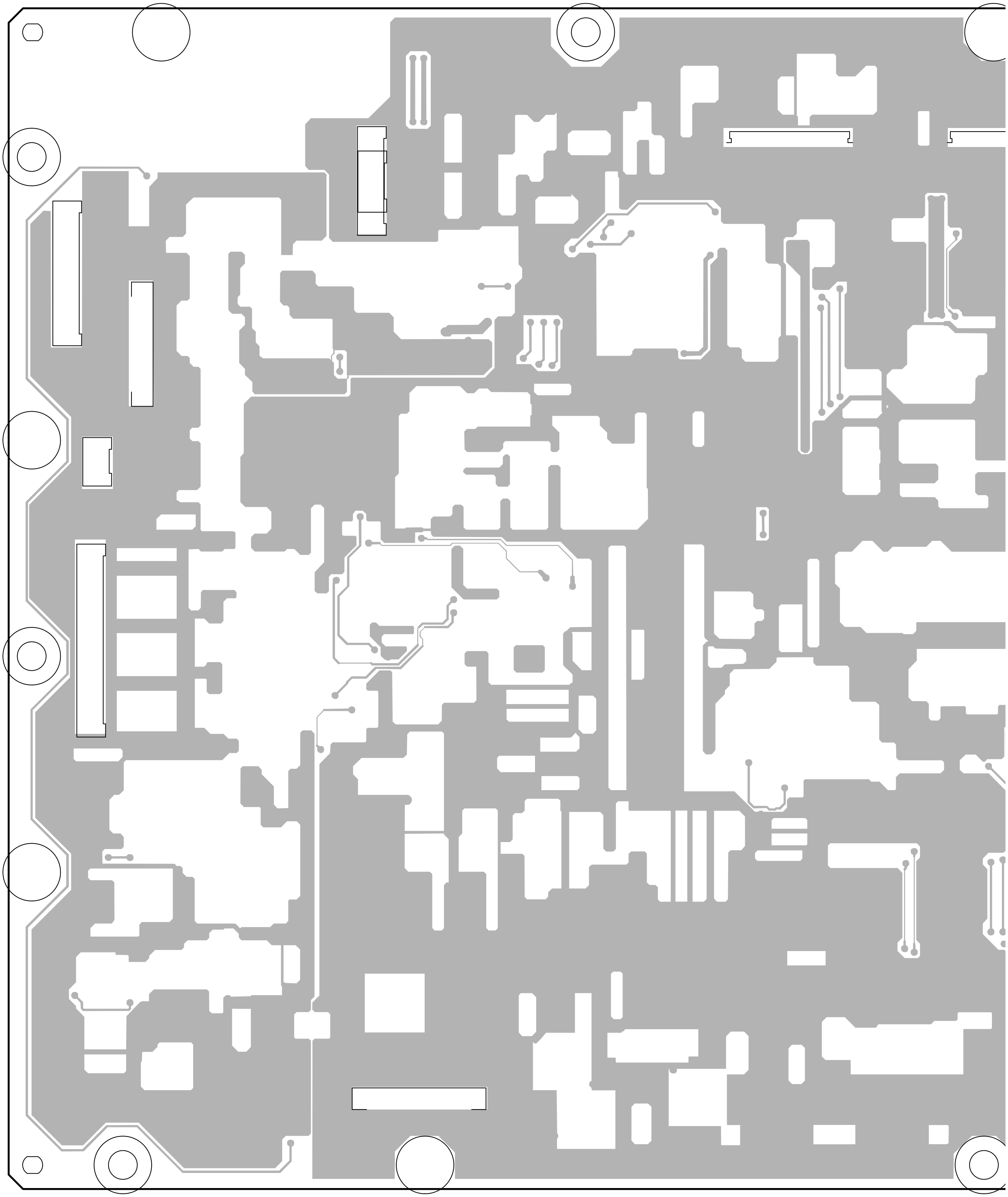


SIDE A
E-a
E-b
A CN7501 T7
F CN5091 Q1
H CN3002 Y2
CN5604
CN5605
CN5606
IC5601
PQ3RF23
AWV 1799- 1804-
SUB SUFFIX
U5
U8
U11
Q5301
Q5529–Q5532
Q5323
Q5328
Q5342
Q5341
Q5622
Q5613–Q5619
IC5601
Q5251–Q5253
IC5256
Q5325–Q5327
Q5337–Q5339
Q5609
Q5610
Q5606–Q5608
Q5611
Q5603–Q5605
Q5601
Q5602
IC525

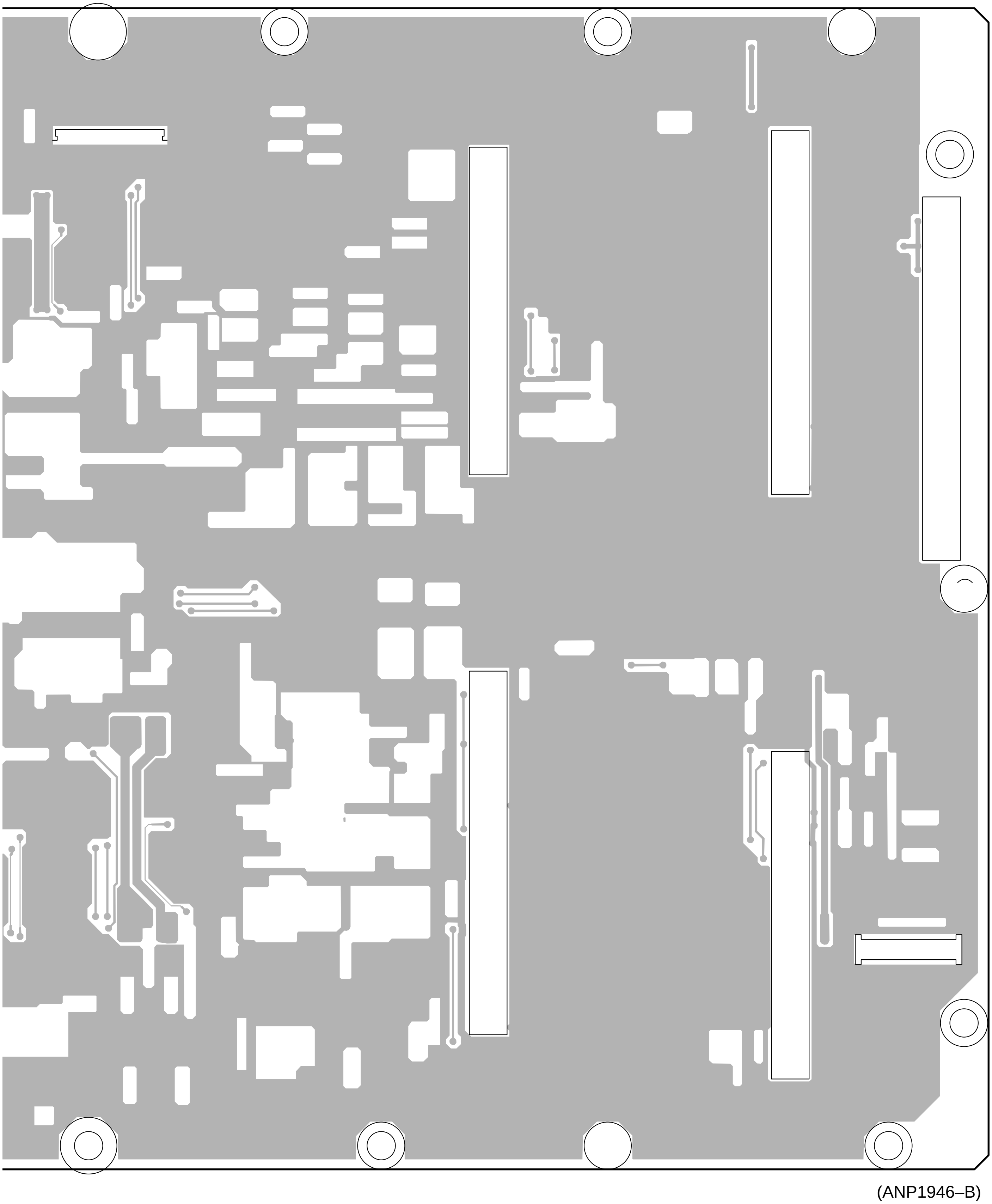

To SPEAKER
P
CN204
E4
A
CN2455
T3
To AUTO COVER
I
CN1655
H7
P
CN212
E12
M
CN5101
M1
N
CN5151
N1
G
CN1202
X2
E-a
E-b
U7
U13
U16
U12
U14
U15
U4
CN5610
CN5255
CN5256
CN5254
CN5252
CN5251
CN5612
CN5611
CN5609
P.D
12V
A_GND
A_GND
+35V
+35V
E_SDA
E_SCL
SDA2
SCL2
+5V
GND
C.MUTE
CSCL2
CSDA2
CXACKM
CXBUSY
V.SIZE.ADJ
C.H.BLK2
GND
C.MUTE
CSCL2
CSDA2
CXACKM
CXBUSY
GND
GND
GND
GND
GND
GND
GND
CRT.GND
R OUT
G OUT
B OUT
12V
L_GND
L
L_GND
R
R_GND
R_GND
RT
LT
NC
NC
+35V
+35V
A_GND
A_GND
SP_L
L_GND
SP_R
R_GND
STBSV
12V
C5614
C5620
C5621
C5619
C5617
IC5254
CXA1315
IC5251
TA12
GND
RIGHT
LEFT
VR5251
VR5252
R-Y
B-Y
TP5251
TP5259
TP5260


CN5151
N1
O
CN5201
P1
P
CN203
E3
(ANP1946–B)
ANP1946-B
TA1276AN
IC5251
U1
U2
P03RV11(A)
12V
GND
GND
B OUT
GND
12V
CN5608
Q5275–Q5278
Q5305
Q5274
Q5273
Q5272
Q5306
Q5263
Q5262
Q5264
Q5340
Q5265
Q5286
Q5261
Q5287
Q5257
Q5259
Q5260
Q5266–Q5269
Q5270
Q5271
Q5281
Q5279
Q5319
Q5285
Q5320
Q5318
Q5288–Q5290
Q5334
Q5335
Q5336
Q5254
Q5280
Q5255
Q5333
IC5251
IC5254
Q5302
Q5620
Q5621
VR5251
Q5307–Q5312
IC5602
E-a
E-b
SIDE A

E VIDEO ASSY



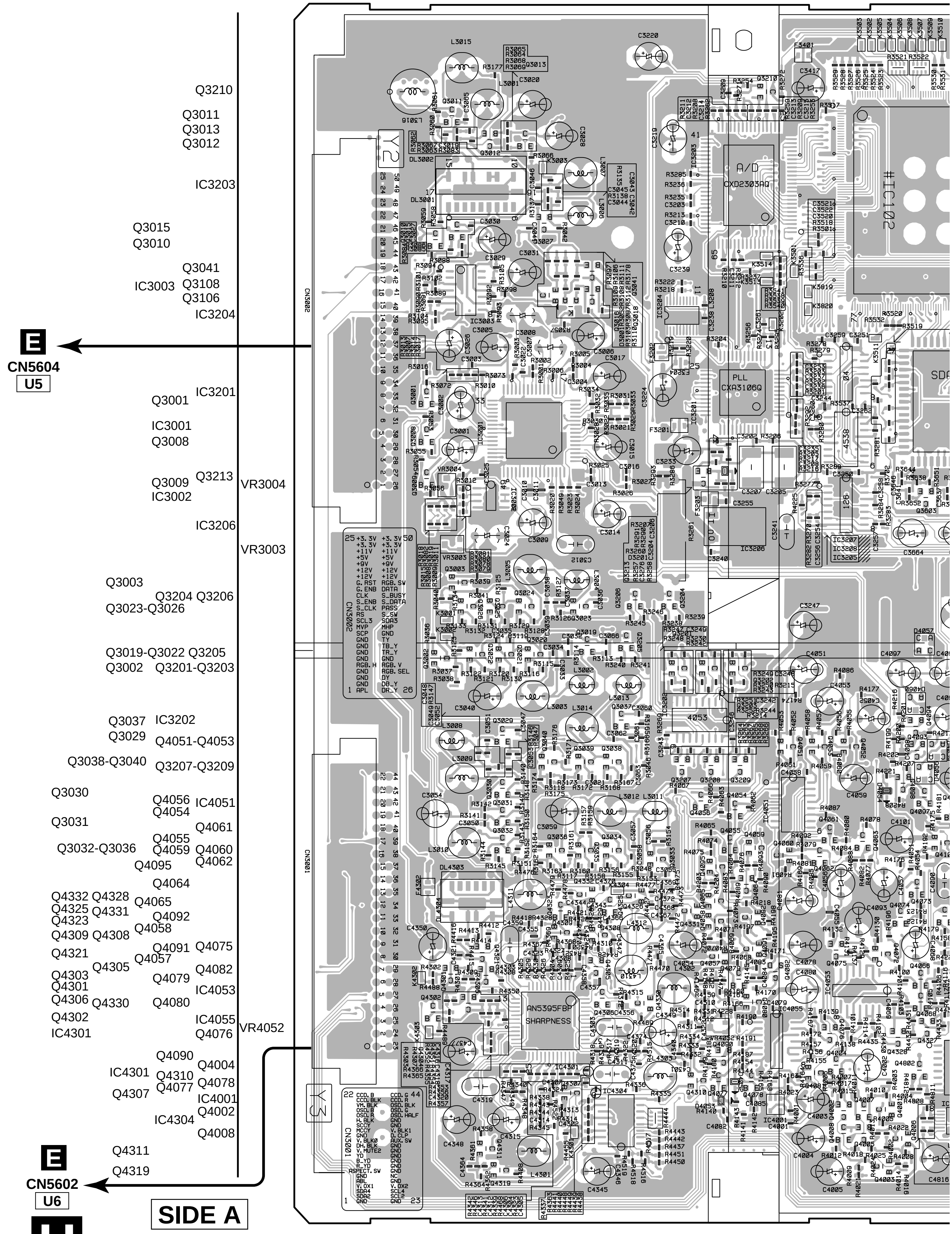
SIDE B



(ANP1946–B)

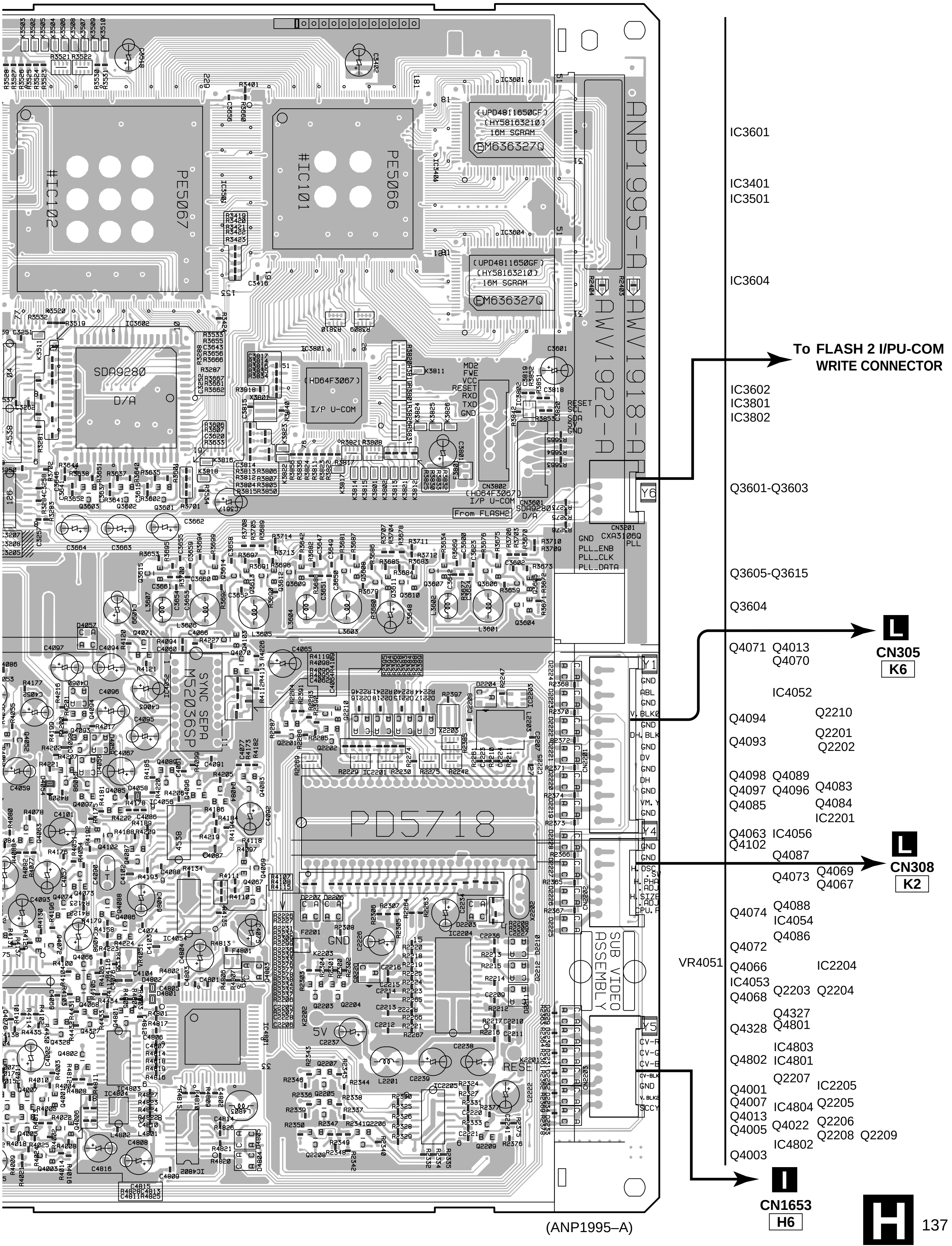
4.4 SUB VIDEO SERVICE ASSY

H SUB VIDEO SERVICE ASSY


Q3210
Q3011
Q3013
Q3012
IC3203
Q3015
Q3010
Q3041
IC3003
Q3108
Q3106
IC3204
E
CN5604
U5
Q3001
IC3201
IC3001
Q3008
Q3009
Q3213
VR3004
IC3002
IC3206
VR3003
Q3003
Q3204
Q3206
Q3023-Q3026
Q3019-Q3022
Q3205
Q3002
Q3201-Q3203
Q3037
IC3202
Q3029
Q4051-Q4053
Q3038-Q3040
Q3207-Q3209
Q3030
Q4056
IC4051
Q4054
Q3031
Q4061
Q4055
Q3032-Q3036
Q4059
Q4060
Q4062
Q4095
Q4064
Q4332
Q4328
Q4065
Q4325
Q4331
Q4323
Q4092
Q4309
Q4308
Q4058
Q4091
Q4075
Q4321
Q4057
Q4305
Q4082
Q4303
Q4079
Q4301
IC4053
Q4306
Q4330
Q4080
Q4302
IC4055
IC4301
Q4076
VR4052
Q4090
Q4004
IC4301
Q4310
Q4078
Q4077
Q4307
IC4001
Q4002
IC4304
Q4008
E
Q4311
Q4319
CN5602
U6
SIDE A
CN3002
CN3001
A/D
CXD2303AQ
PLL
CXA3106Q
AN5395FBP
SHARPNESS
#IC102
SDA

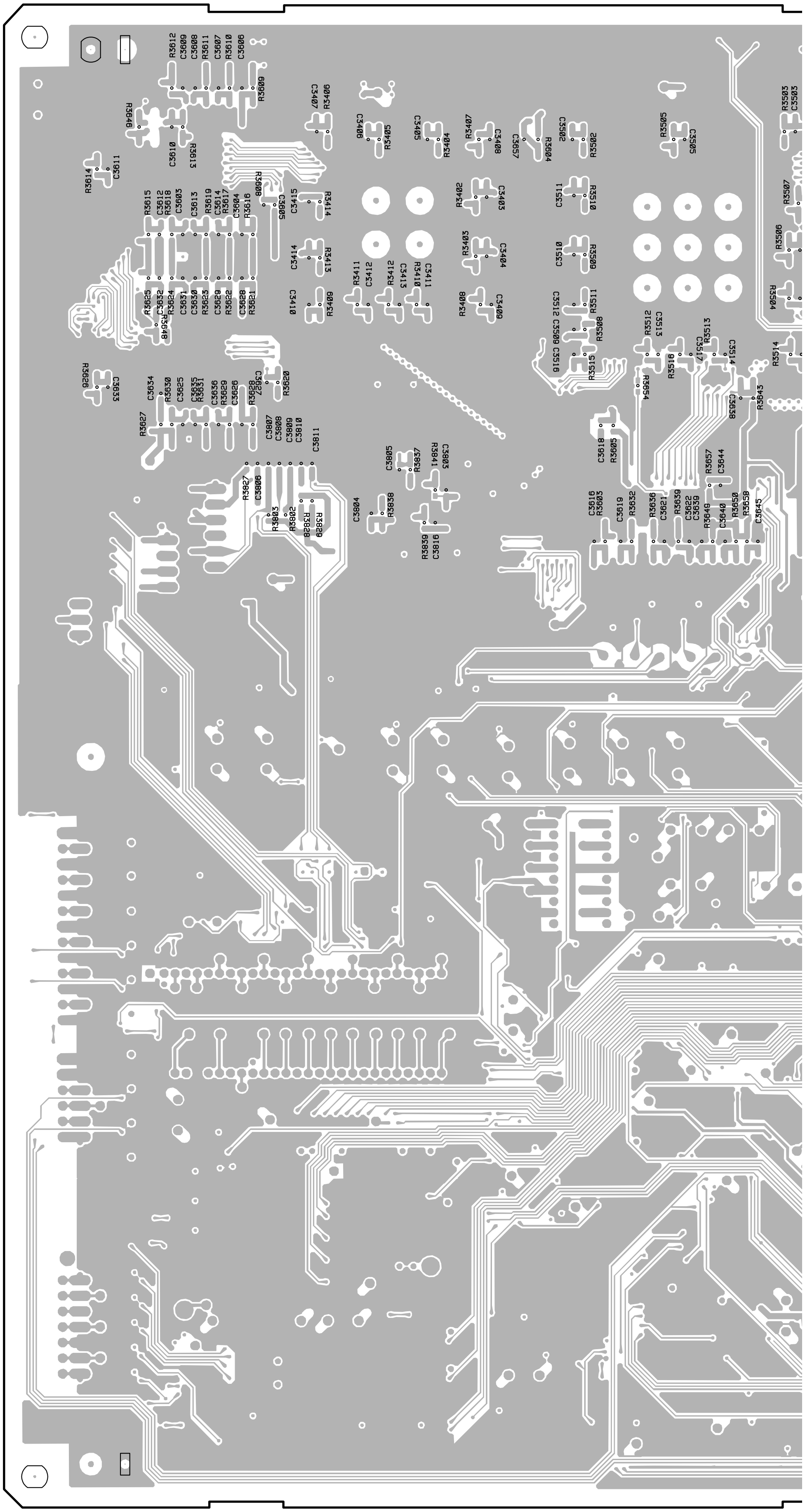
H

SSY

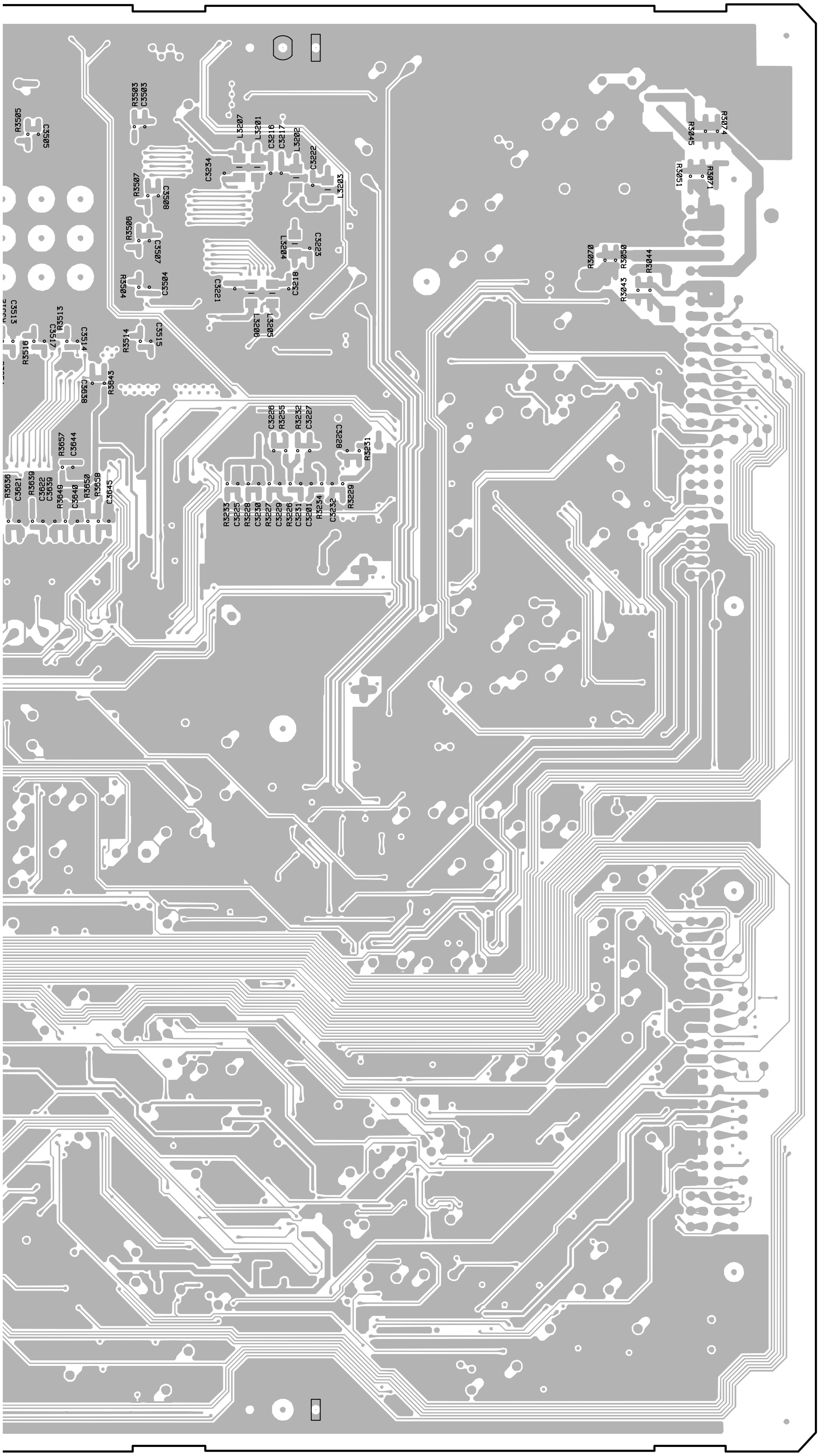

IC3601
IC3401
IC3501
IC3604
To FLASH 2 I/PU-COM
WRITE CONNECTOR
IC3602
IC3801
IC3802
Q3601-Q3603
Q3605-Q3615
Q3604
Q4071 Q4013
Q4070
L
CN305
K6
IC4052
Q4094 Q2210
Q2201
Q4093 Q2202
Q4098 Q4089
Q4097 Q4096 Q4083
Q4085 Q4084
IC2201
Q4063 IC4056
Q4102
Q4087
L
CN308
K2
Q4073 Q4069
Q4067
Q4088
Q4074 IC4054
Q4086
Q4072
VR4051 Q4066 IC2204
IC4053
Q4068 Q2203 Q2204
Q4327
Q4328 Q4801
IC4803
Q4802 IC4801
Q2207
Q4001 IC2205
Q4007 Q2205
IC4804
Q4013 Q2206
Q4022
Q4005 Q2208 Q2209
IC4802
Q4003
I
CN1653
H6
PE5067
#IC102
PE5066
#IC101
(UPD4811650GF)
(HY5816321O)
16M SGRAM
EM636327Q
ANP1995-A
AWV1918-A
AWV1922-A
SDA9280
D/A
HD64F3067
I/P U-COM
From FLASH2
CXA3106Q
PLL
GND
PLL_ENB
PLL_CLK
PLL_DATA
MD2
FWE
VCC
RESET
RXD
TXD
SCL
SDA
SYNC SEPA
M52036SP
PD5718
SUB VIDEO
ASSEMBLY
5V
RESET

(ANP1995–A)

H SUB VIDEO SERVICE ASSY

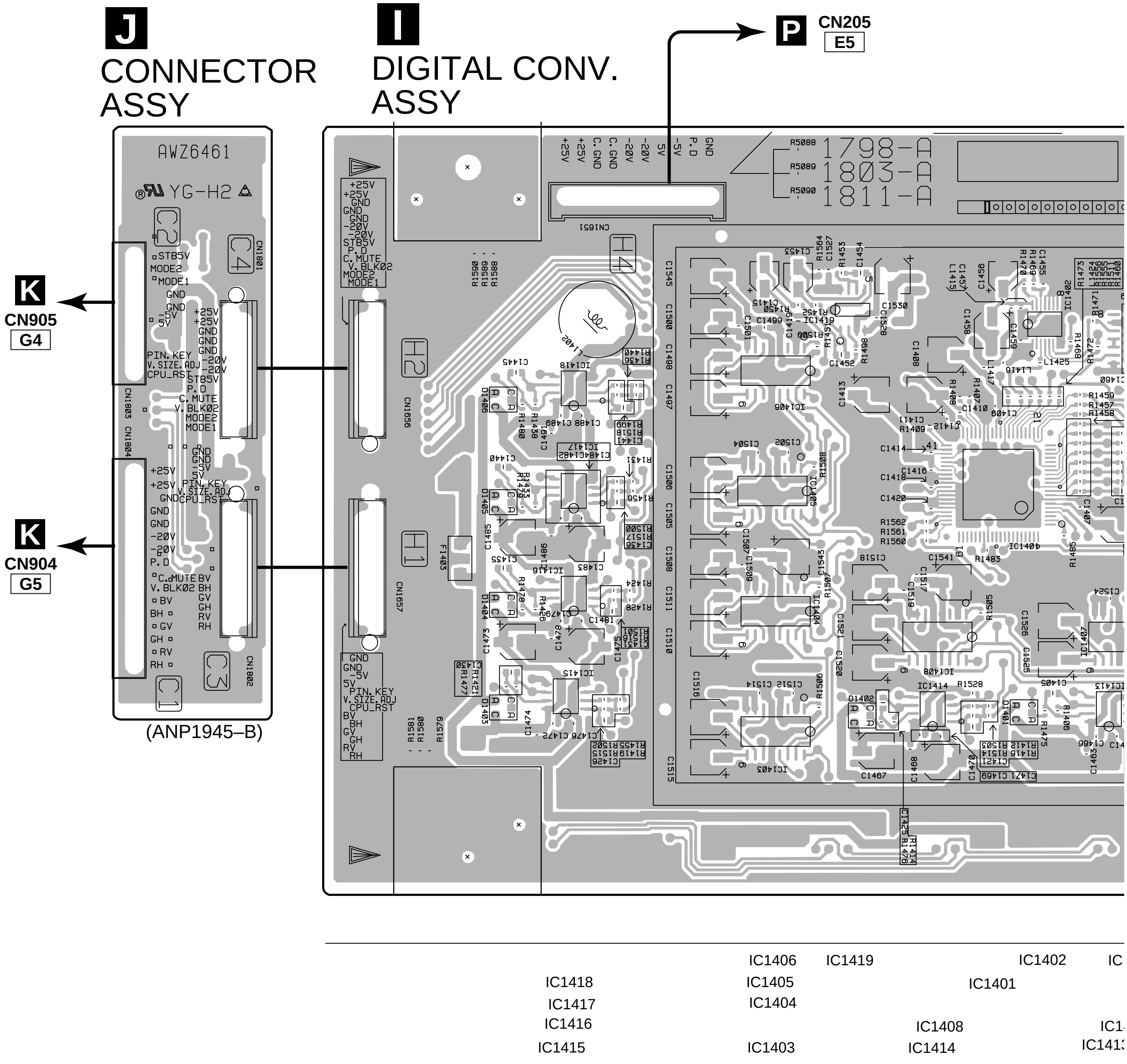

R3612
C3609
C3608
R3611
C3607
R3610
C3606
R3609
R3646
C3610
R3613
C3611
R3614
C3407
R3406
C3406
R3405
C3405
R3404
R3407
C3408
C3657
R3604
C3502
R3502
R3505
C3505
R3503
C3503
R3615
C3612
R3618
C3603
C3613
R3619
C3614
R3617
C3604
R3616
R3608
C3605
C3415
R3414
R3402
C3403
C3511
R3510
R3507
C3414
R3413
R3411
C3412
R3412
C3413
C3411
R3410
R3403
C3404
C3510
R3509
R3506
R3625
C3632
R3624
C3631
C3630
R3623
C3629
R3622
C3628
R3621
R3648
C3410
R3409
R3408
C3409
C3512
C3500
C3516
R3511
R3508
R3515
R3512
C3513
R3516
C3517
R3513
C3514
R3514
R3504
R3626
C3633
C3634
R3630
C3625
C3635
R3631
C3636
R3629
C3626
R3628
C3627
R3620
R3654
C3638
R3643
R3627
C3807
C3808
C3809
C3810
C3811
C3805
R3837
R3841
C3803
R3827
C3806
R3803
R3802
R3828
R3829
C3804
R3838
R3839
C3816
C3618
R3605
C3616
R3603
C3619
R3632
R3636
C3621
R3639
C3622
C3639
R3649
C3640
R3650
R3658
C3645
R3657
C3644

SIDE B


R3505
C3505
R3503
C3503
L3207
L3201
C3216
C3217
L3202
C3234
C3222
L3203
R3507
C3508
R3506
C3507
L3204
C3223
R3504
C3504
C3221
C3218
L3206
L3205
C3513
R3513
C3517
C3514
R3516
R3514
C3515
C3638
R3643
C3226
R3255
R3232
C3227
C3228
R3231
R3657
C3644
R3636
C3621
R3639
C3622
C3639
R3649
C3640
R3650
R3658
C3645
R3233
C3225
R3228
C3230
R3227
C3229
R3226
C3231
C3201
R3234
C3232
R3229
R3074
R3045
R3051
R3071
R3070
R3050
R3044
R3043
A
B
C
D

(ANP1995–A)

4.5 DIGITAL CONV. and CONNECTOR ASSYS


J
CONNECTOR ASSY
I
DIGITAL CONV. ASSY
P
CN205
E5
K
CN905
G4
K
CN904
G5
AWZ6461
YG-H2
CN1801
CN1803
CN1804
CN1802
(ANP1945–B)
CN1651
CN1656
CN1657
+25V
+25V
C. GND
C. GND
-20V
-20V
5V
-5V
P. D
GND
1798-A
1803-A
1811-A
STB5V
MODE2
MODE1
C. MUTE
V. BLK02
PIN. KEY
V. SIZE. ADJ
CPU_RST
BV
BH
GV
GH
RV
RH
IC1406
IC1419
IC1402
IC
IC1418
IC1405
IC1401
IC1417
IC1404
IC1416
IC1408
IC1
IC1415
IC1403
IC1414
IC141

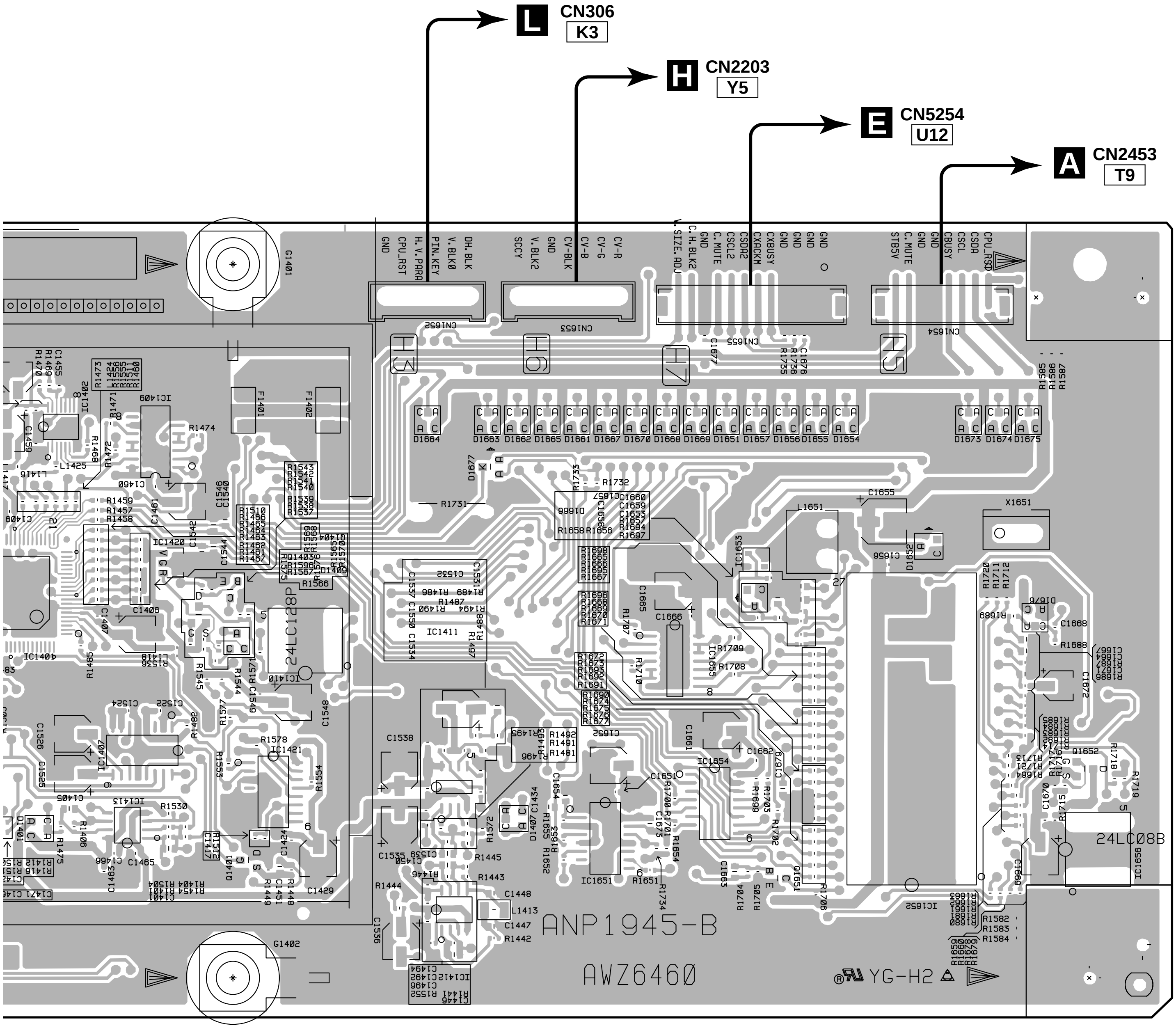
SIDE A

A

B

C

D


L CN306 K3
H CN2203 Y5
E CN5254 U12
A CN2453 T9
GND
CPU.RST
H.V.PARA
PIN.KEY
V.BLK0
DH.BLK
SCCY
V.BLK2
GND
CV-BLK
CV-B
CV-G
CV-R
V.SIZE.ADJ
C.H.BLK2
GND
C.MUTE
CSCL2
CSDA2
CXACKM
CXBUSY
GND
GND
GND
GND
STB5V
C.MUTE
GND
CBUSY
CSCL
CSDA
CPU.RSD
CN1652
CN1653
CN1655
CN1654
G1401
G1402
24LC128P
24LC08B
ANP1945-B
AWZ6460
YG-H2

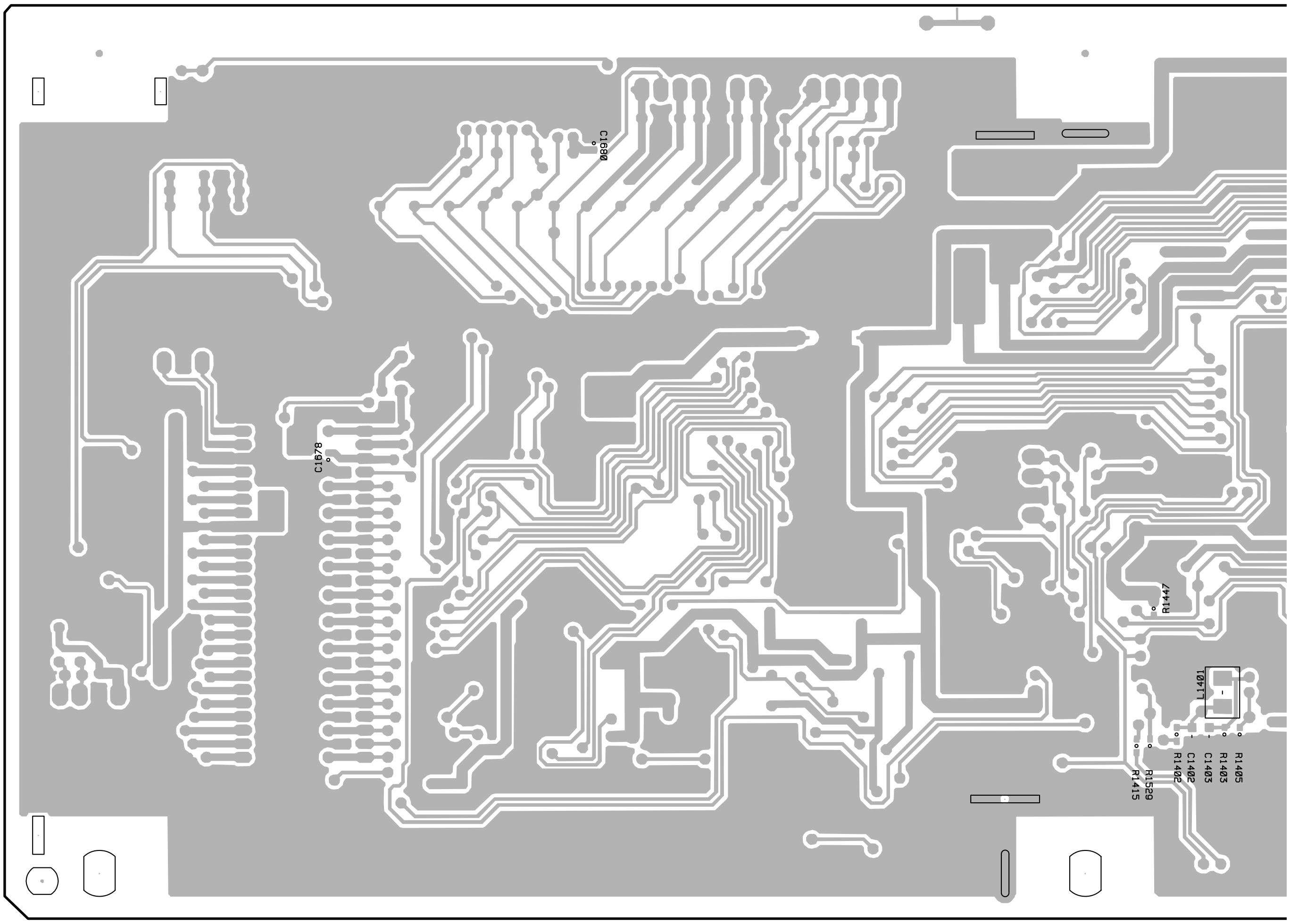
(ANP1945–B)

IC1402
IC1409
401
IC1420
Q1404
IC1653
Q1403
IC1410
IC1655
IC1652
IC1407
Q1652
IC1413
IC1421
IC1411
IC1651
IC1654
IC1656
Q1401
IC1412
Q1651

A

DIGITAL CONV.
ASSY

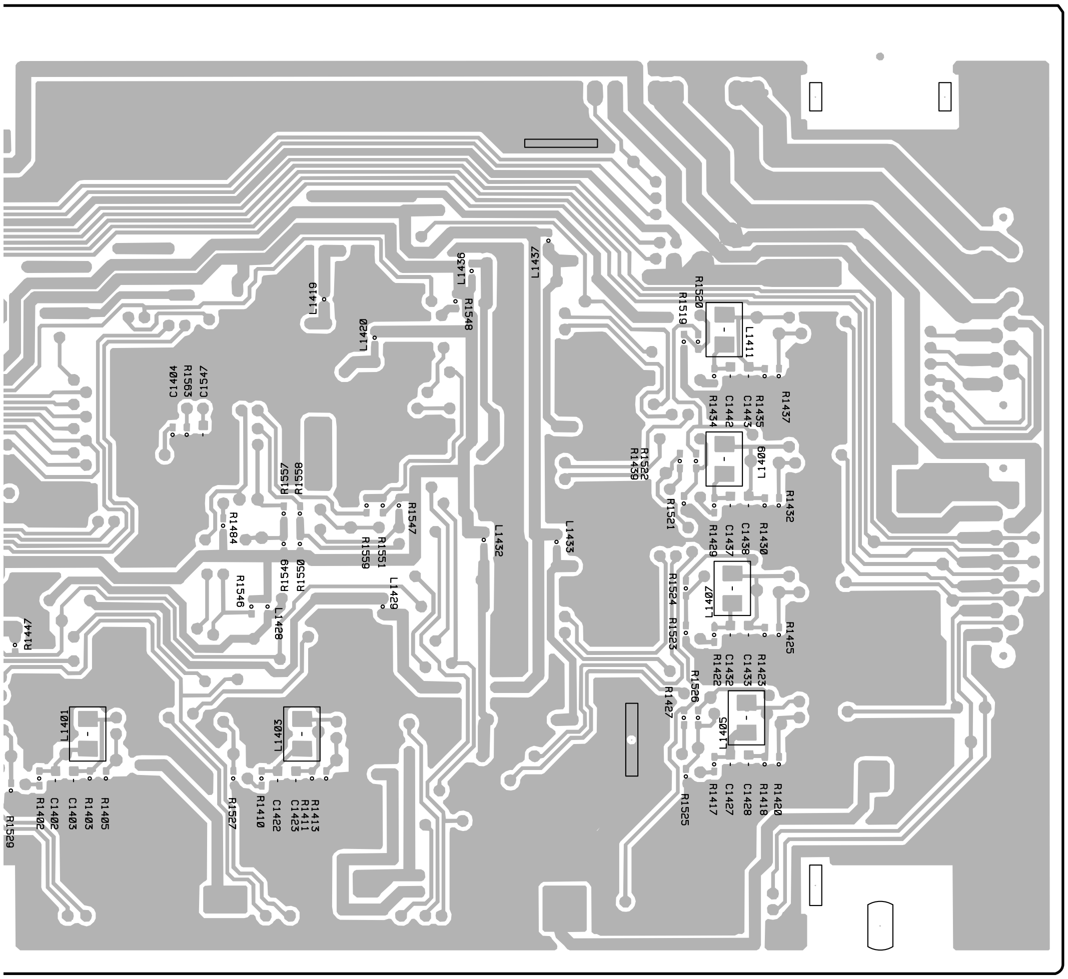
B


C1680
C1678
R1447
L1401
R1405
R1403
C1403
C1402
R1402
R1529
R1415

C

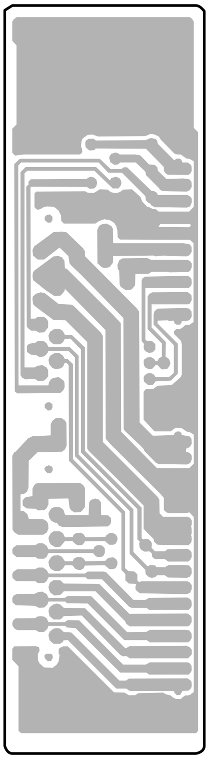
D

SIDE B


L1437
L1436
R1548
L1419
L1420
C1404
R1563
C1547
R1520
R1519
L1411
C1442
C1443
R1434
R1455
R1437
R1522
R1439
L1409
R1432
R1521
C1437
C1438
R1429
R1430
R1557
R1558
R1484
R1547
R1550
R1551
R1549
R1559
L1432
L1433
R1546
L1428
L1429
R1447
R1524
R1523
L1407
R1425
R1526
R1427
C1432
C1433
R1422
R1423
L1405
L1401
L1403
R1529
R1402
C1402
C1403
R1403
R1405
R1527
R1410
C1422
C1423
R1411
R1413
R1525
R1417
C1427
C1428
R1418
R1420

(ANP1945–B)

J CONNECTOR ASSY



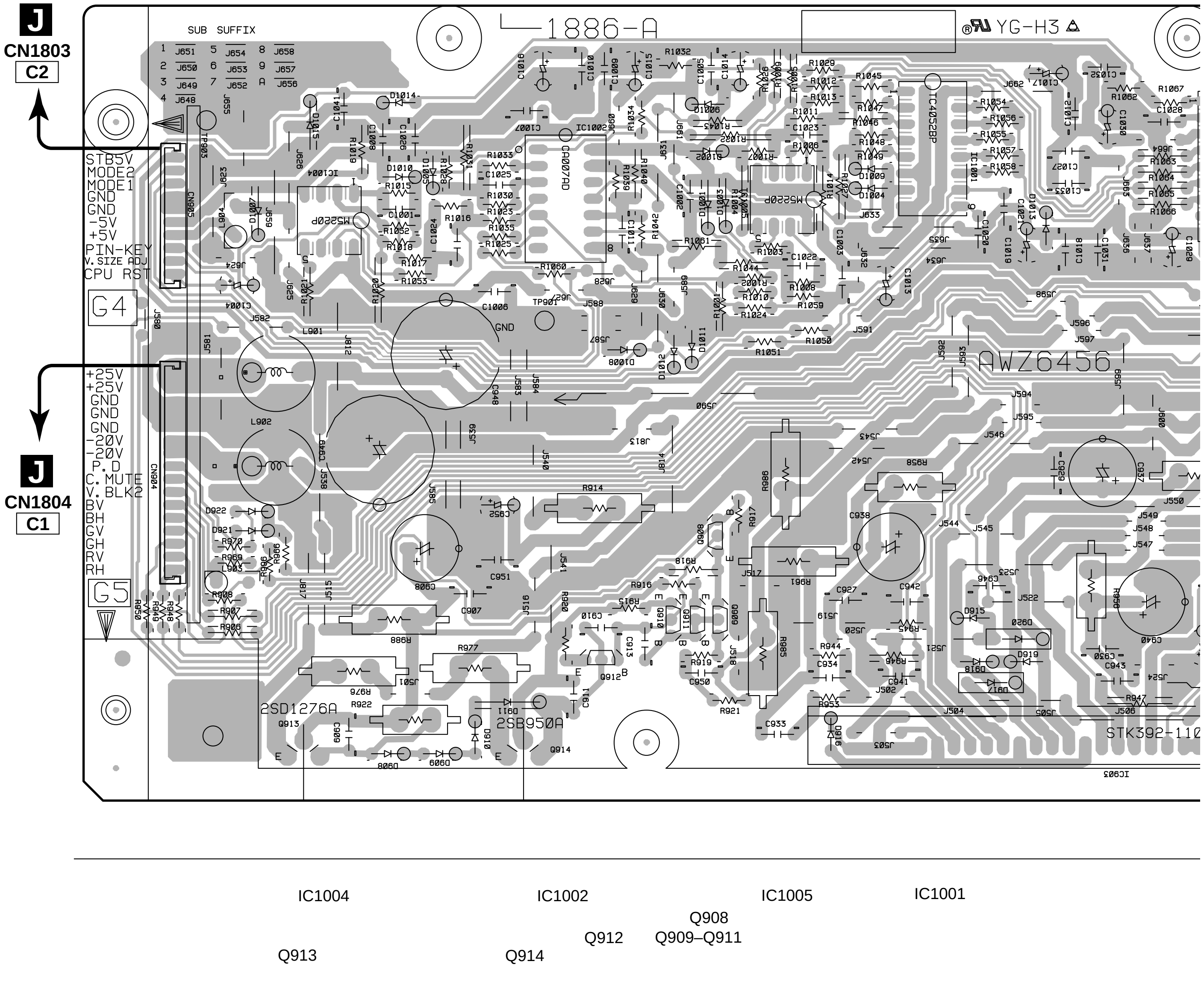
(ANP1945–B)

4.6 CONV. AMP ASSY

A

B

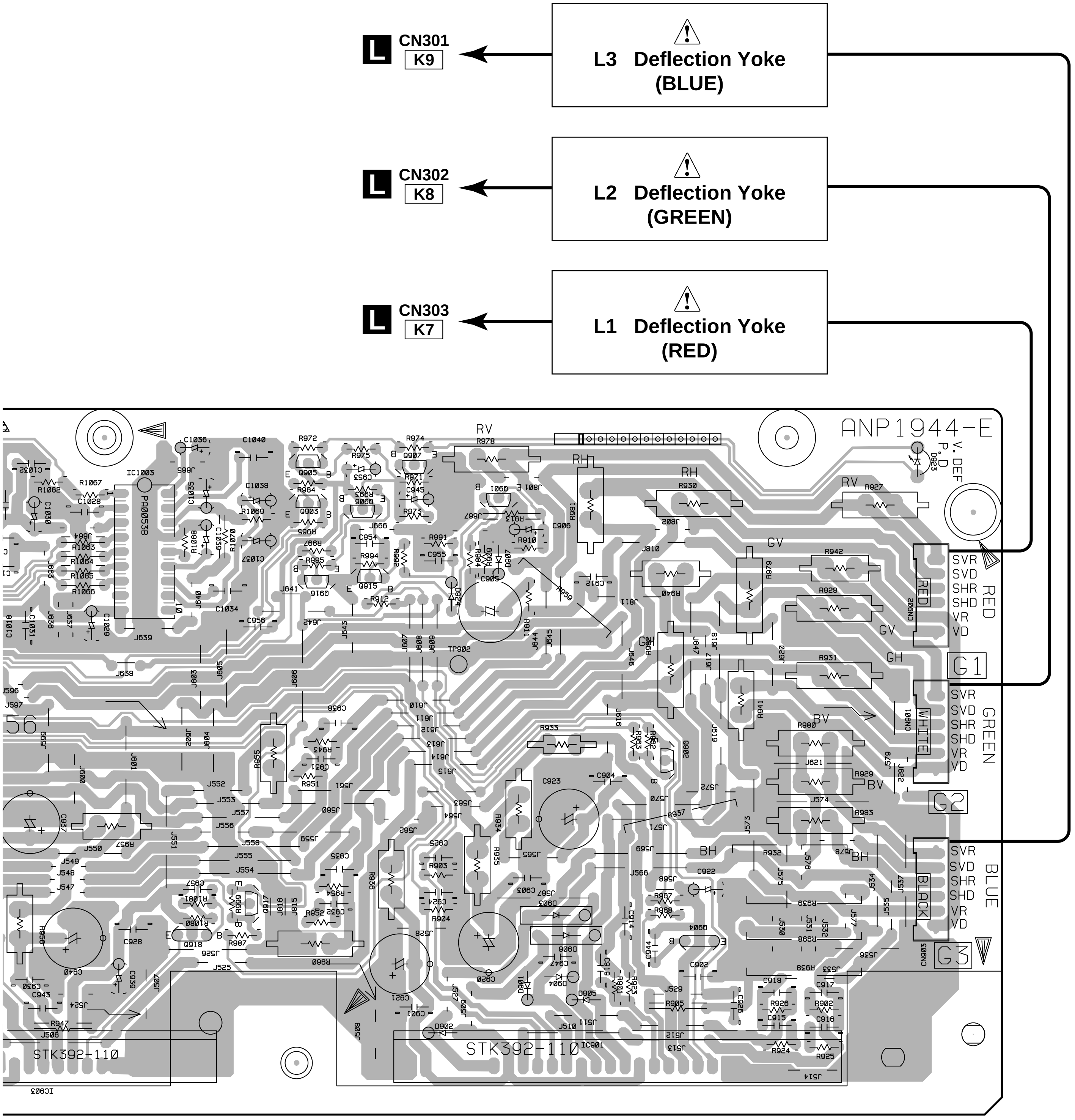
K CONV. AMP ASSY


J
CN1803
C2
SUB SUFFIX
1 J651 5 J654 8 J658
2 J650 6 J653 9 J657
3 J649 7 J652 A J656
4 J648
1886-A
YG-H3
STB5V
MODE2
MODE1
GND
GND
-5V
+5V
PIN-KEY
V.SIZE ADJ
CPU RST
G4
CN905
TP903
IC1004
M5220P
IC1002
CA0007AD
M5220P
TC4052BP
IC1001
+25V
+25V
GND
GND
GND
-20V
-20V
P.D
C.MUTE
V.BLK2
BV
BH
GV
GH
RV
RH
G5
CN904
J
CN1804
C1
AWZ6456
L901
L902
GND
TP901
2SD1276A
Q913
2SB950A
Q914
Q912
STK392-110
IC903
IC1004
IC1002
IC1005
IC1001
Q908
Q912
Q909–Q911
Q913
Q914

C

D

SIDE A


L
CN301
K9
L3 Deflection Yoke
(BLUE)
L
CN302
K8
L2 Deflection Yoke
(GREEN)
L
CN303
K7
L1 Deflection Yoke
(RED)
ANP1944-E
V. DEF
P. D
RV
RH
GV
GH
BV
BH
SVR
SVD
SHR
SHD
VR
VD
RED
GREEN
BLUE
G1
G2
G3
CN902
CN901
CN903
WHITE
BLACK
IC1003
PA0053B
TP902
STK392-110
IC901
IC903

(ANP1944–E)

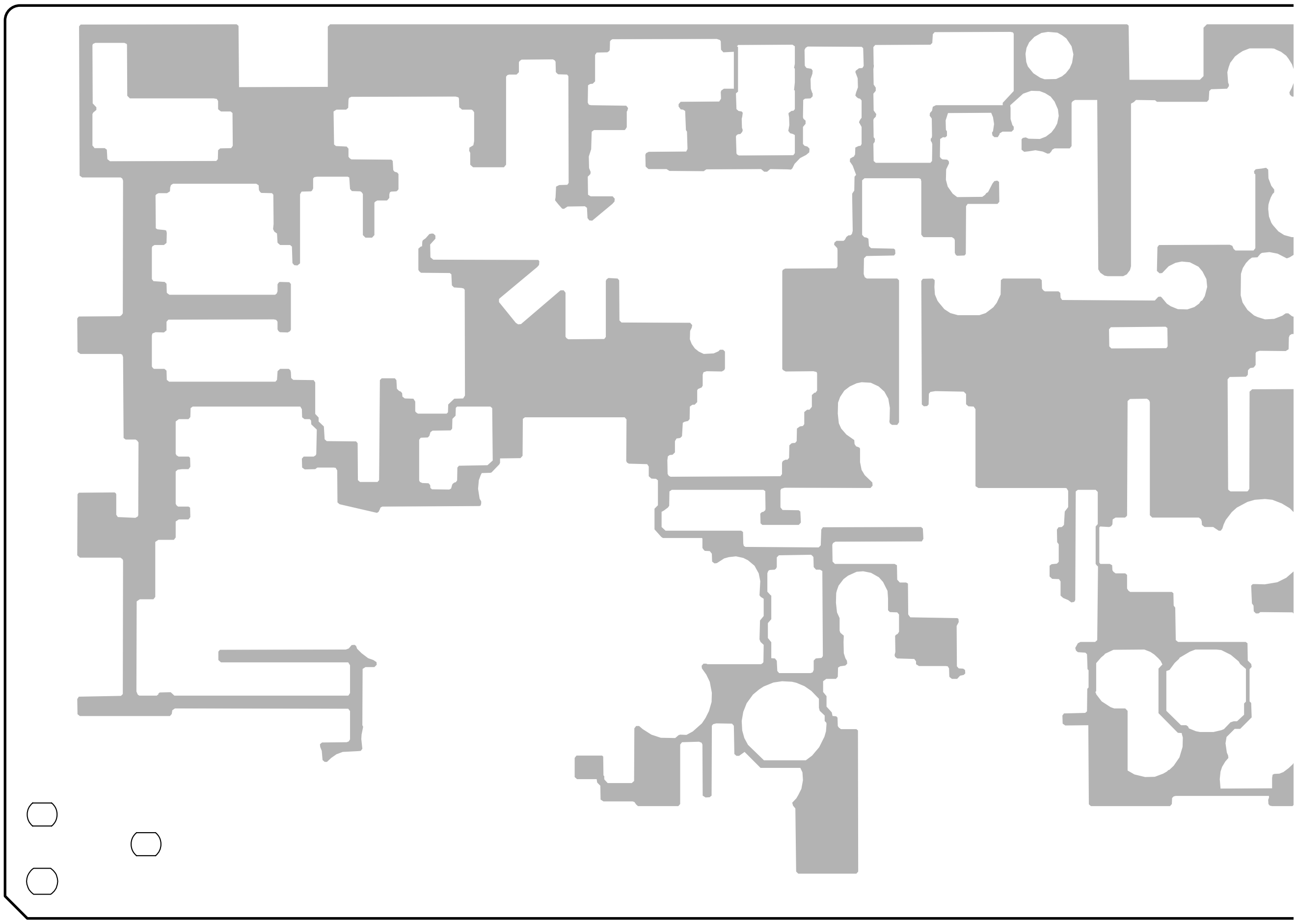
Q903 Q905 Q906 Q907 Q901

IC1003 Q916 Q915

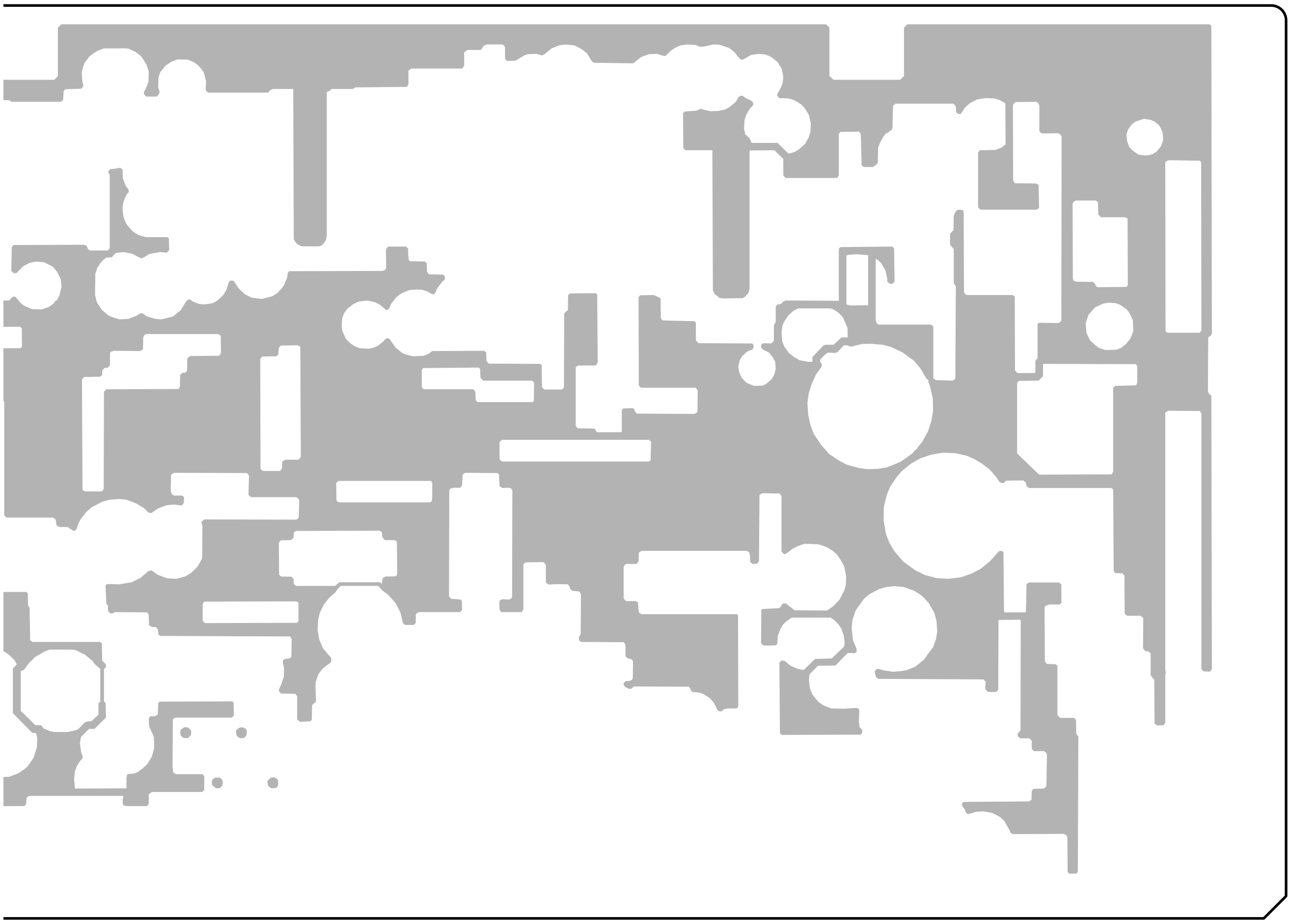
Q902

Q918 Q917 Q904

K CONV. AMP ASSY



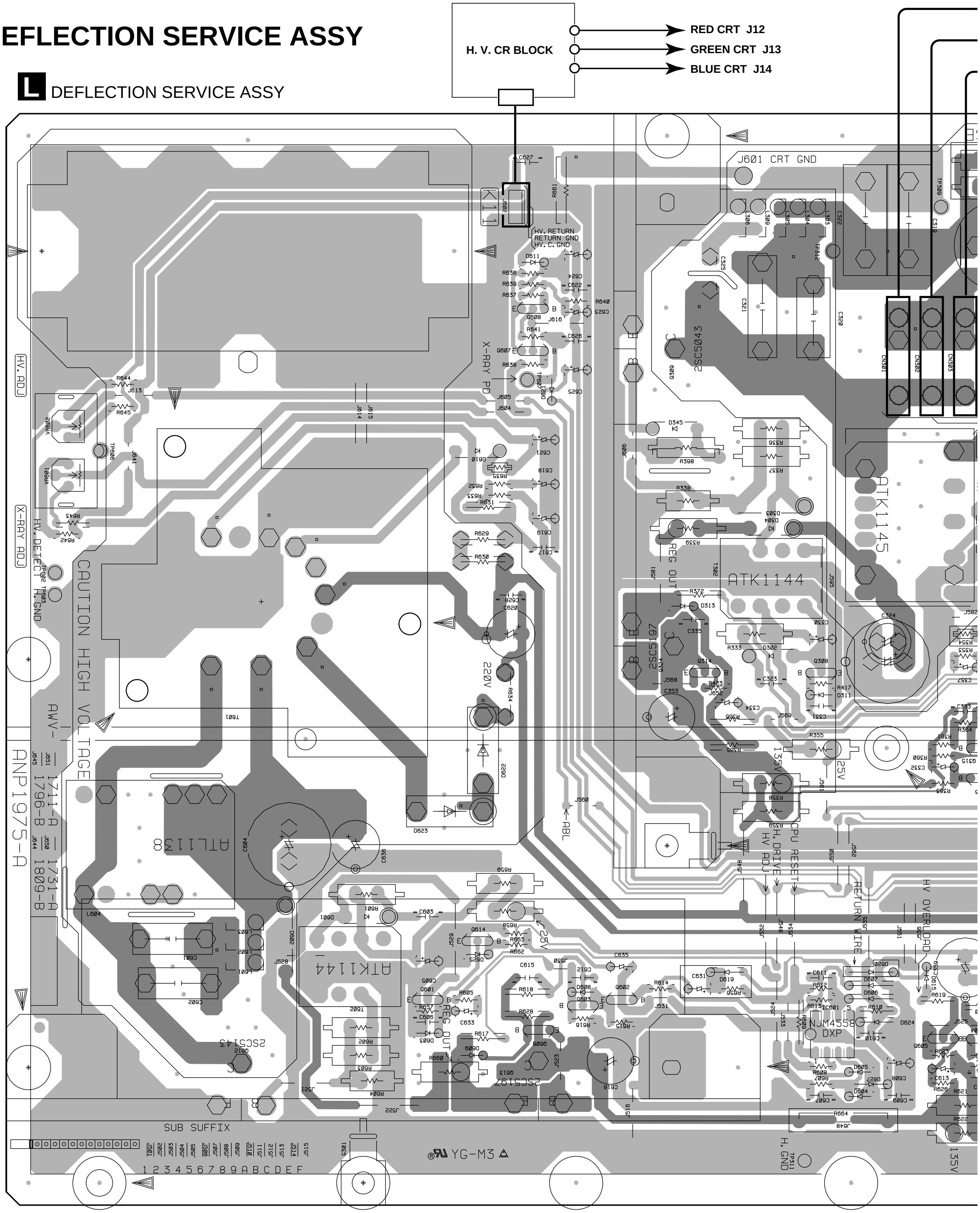
SIDE B



(ANP1944–E)

4.7 DEFLECTION SERVICE ASSY

L DEFLECTION SERVICE ASSY


H. V. CR BLOCK
RED CRT J12
GREEN CRT J13
BLUE CRT J14
J601 CRT GND
HV. RETURN
RETURN GND
HV. C. GND
K11
X-RAY PD
HV. ADJ
X-RAY ADJ
HV. DETECT
H. GND
CAUTION HIGH VOLTAGE
AWV-
ANP1975-A
1711-A
1796-B
1731-A
1809-B
ATL1138
ATK1144
ATK1145
2SC5043
2SC5197
2SC5143
REG OUT
220V
ABL
135V
25V
CPU RESET
H. DRIVE
HV ADJ
RETURN WIRE
HV OVERLOAD
NJM4558
DXP
SUB SUFFIX
1 2 3 4 5 6 7 8 9 A B C D E F
YG-M3
TP311
H. GND

▨ : mark shows a high voltage generation point.

VR601 VR602

Q607 Q608 Q309

Q324 Q314 Q308

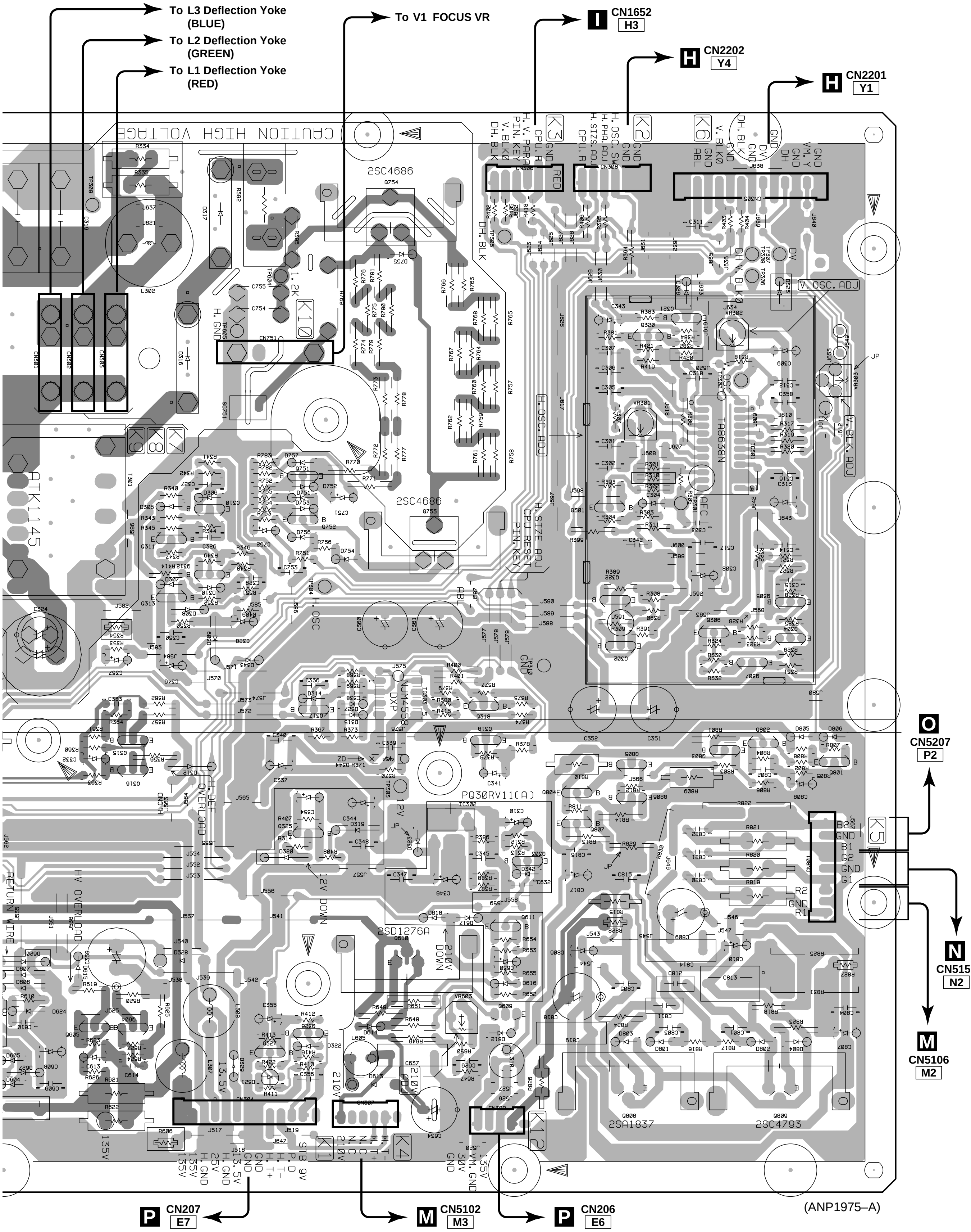
Q601 Q614

Q606 Q603 Q602 IC601 Q605 Q3

Q612 Q613 Q6

SIDE A

L-b


To L3 Deflection Yoke (BLUE)
To L2 Deflection Yoke (GREEN)
To L1 Deflection Yoke (RED)
To V1 FOCUS VR
I CN1652 H3
H CN2202 Y4
H CN2201 Y1
O CN5207 P2
N CN5157 N2
M CN5106 M2
P CN207 E7
M CN5102 M3
P CN206 E6
CAUTION HIGH VOLTAGE
2SC4686
TA8638N
NJM4558
PQ30RV11(A)
2SD1276A
2SA1837
2SC4793
ATK1145
V.OSC.ADJ
H.OSC.ADJ
V.BLK.ADJ
H.SIZE ADJ
CPU RESET
PIN.KEY
HV OVERLOAD
H.DEF OVERLOAD
RETURN WIRE
12V DOWN
210V DOWN
(ANP1975–A)

VR603 VR301 VR302 VR303

Q754

Q320 Q321

Q311 Q310 Q751 Q752 Q753 Q301 IC301

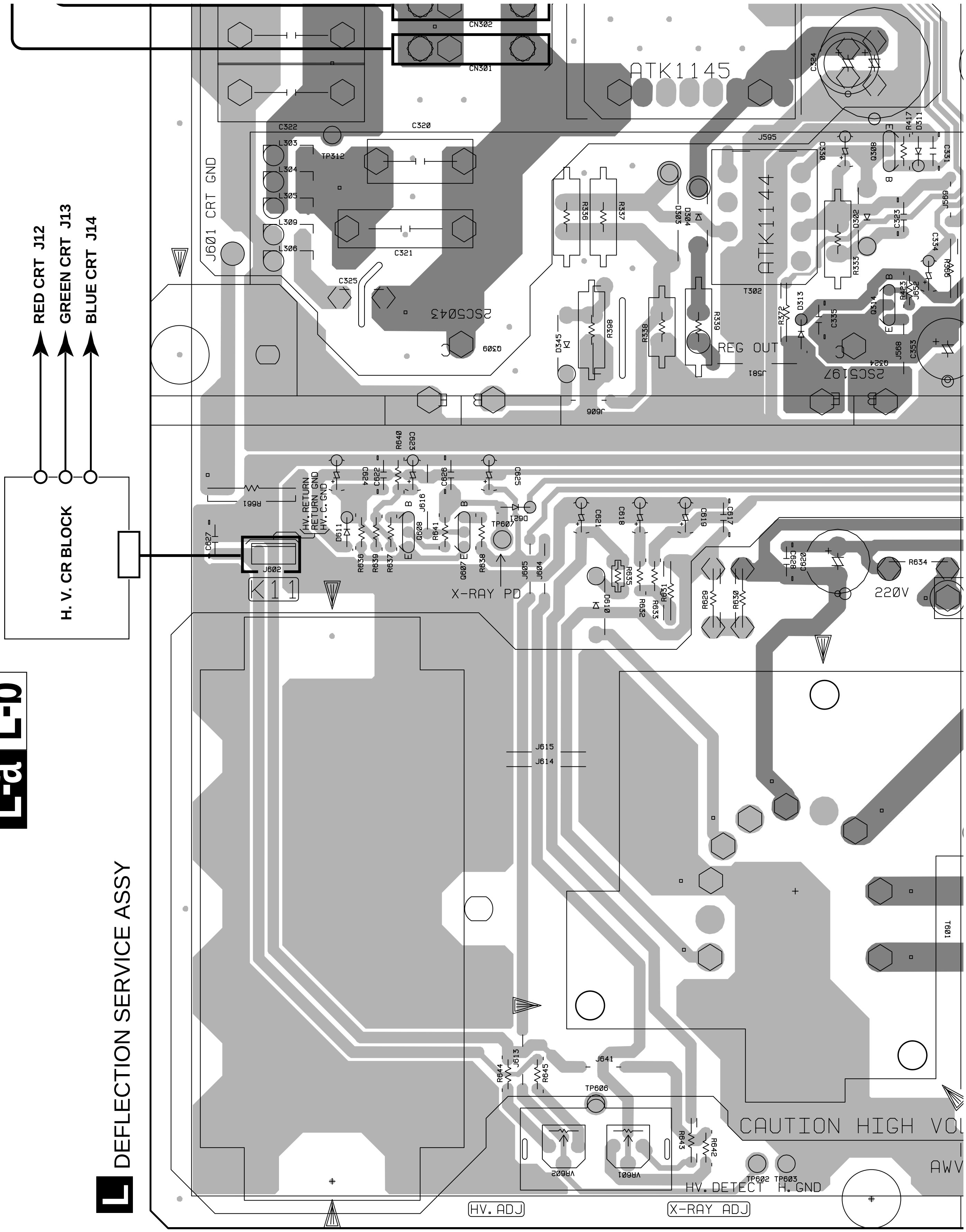
Q313 Q312 Q317 IC305 Q318 Q302 Q322 Q306 Q307 Q304 Q305

Q325 Q319

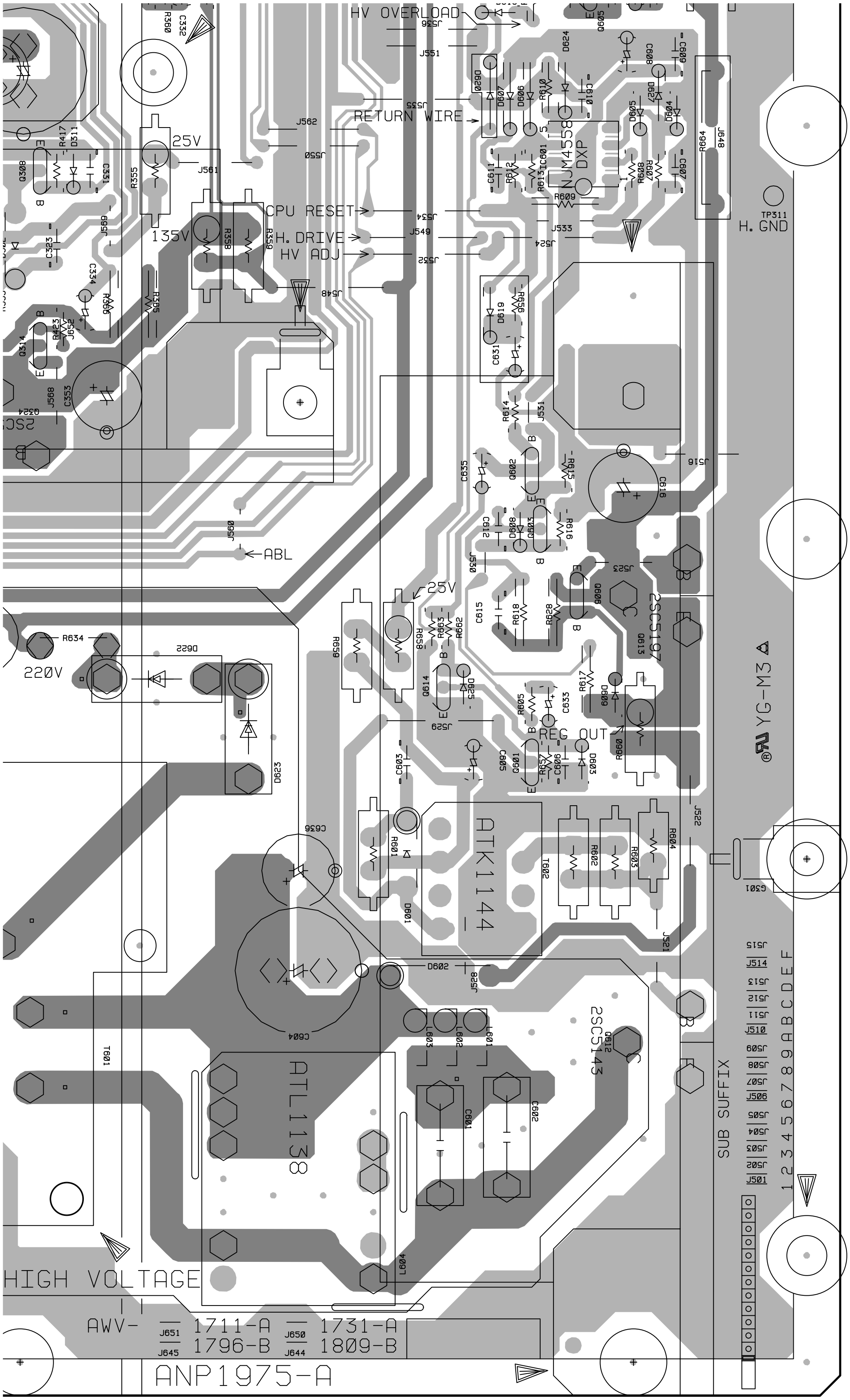
Q315 Q316 IC302 Q303 Q804–Q807 Q801–Q803

Q605 Q604 Q610 Q811

Q327 Q326 Q808 Q809


RED CRT J12
GREEN CRT J13
BLUE CRT J14
H. V. CR BLOCK
CN302
CN301
ATK1145
C324
C322
C320
L303
TP312
L304
L305
L309
L306
C321
C325
J601 CRT GND
2SC5043
Q309
D345
R398
R338
R339
REG OUT
J581
R336
R337
D303
D304
ATK1144
T302
J595
C330
Q308
R417
D311
C331
D302
C323
J569
C334
R333
R372
D313
C335
Q314
R423
J652
R366
J568
C353
Q324
2SC5197
J606
R640
C623
C624
C622
C626
C625
R661
HV. RETURN
RETURN GND
HV. C. GND
C627
J602
K11
D611
R636
R639
R637
Q608
J616
R641
Q607
R638
TP607
D621
J605
J604
X-RAY PD
C621
C618
C619
C617
R635
D610
R632
R633
R631
R629
R630
C628
C620
R634
220V
J615
J614
T601
R644
J613
R645
J641
TP606
R643
R642
VR602
VR601
CAUTION HIGH VOL
AWV
HV. DETECT
H. GND
TP602
TP603
HV. ADJ
X-RAY ADJ

L DEFLECTION SERVICE ASSY

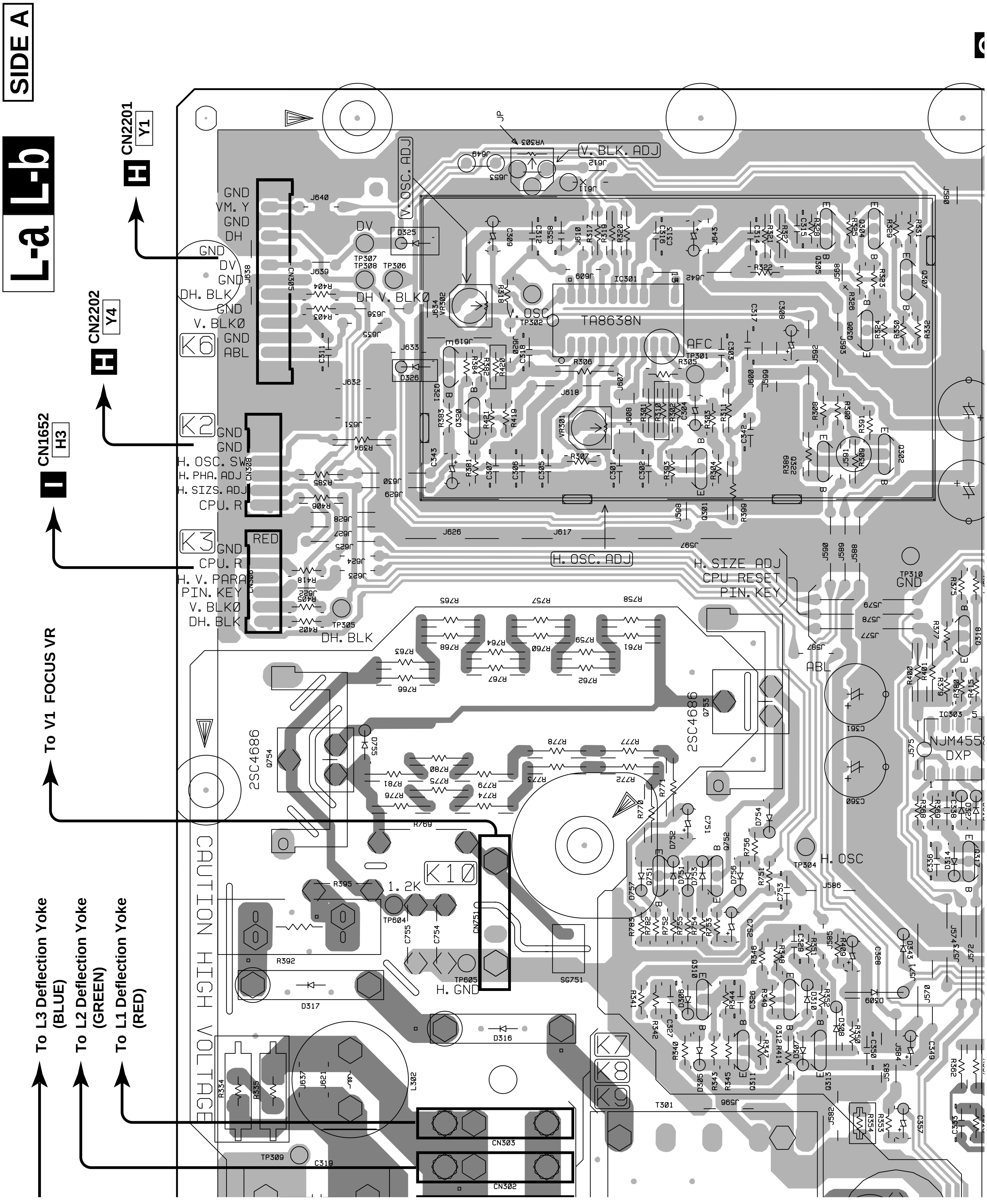

HV OVERLOAD
RETURN WIRE
CPU RESET
H. DRIVE
HV ADJ
ABL
25V
135V
220V
REG OUT
H. GND
TP311
NJM4558DXP
IC601
ATK1144
ATL1138
2SC5197
2SC5143
YG-M3
SUB SUFFIX
1 2 3 4 5 6 7 8 9 A B C D E F
HIGH VOLTAGE
AWV- 1711-A 1731-A
1796-B 1809-B
ANP1975-A
T601
T602
C604
C636
D622
D623
D602
L601
L602
L603
L604
C601
C602
Q612
Q613
Q601
Q602
Q603
Q606
Q614
J501
J502
J503
J504
J505
J506
J507
J508
J509
J510
J511
J512
J513
J514
J515

▨ : mark shows a high voltage generation point.

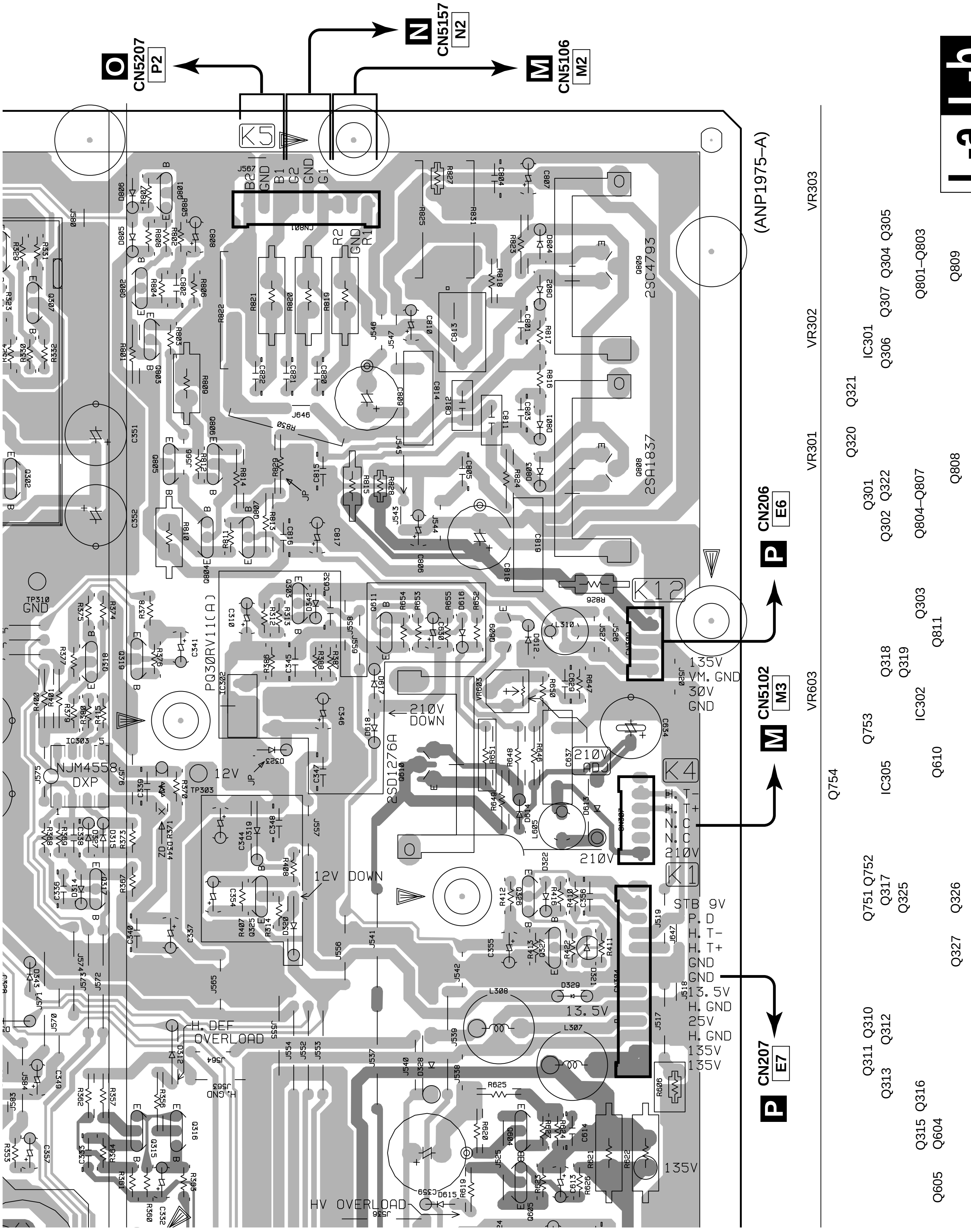
IC601
Q308
Q314
Q309
Q324
Q602
Q603
Q608
Q607
Q606
Q613
Q614
Q601
Q612
VR601 VR602

L-a L-b

SIDE A

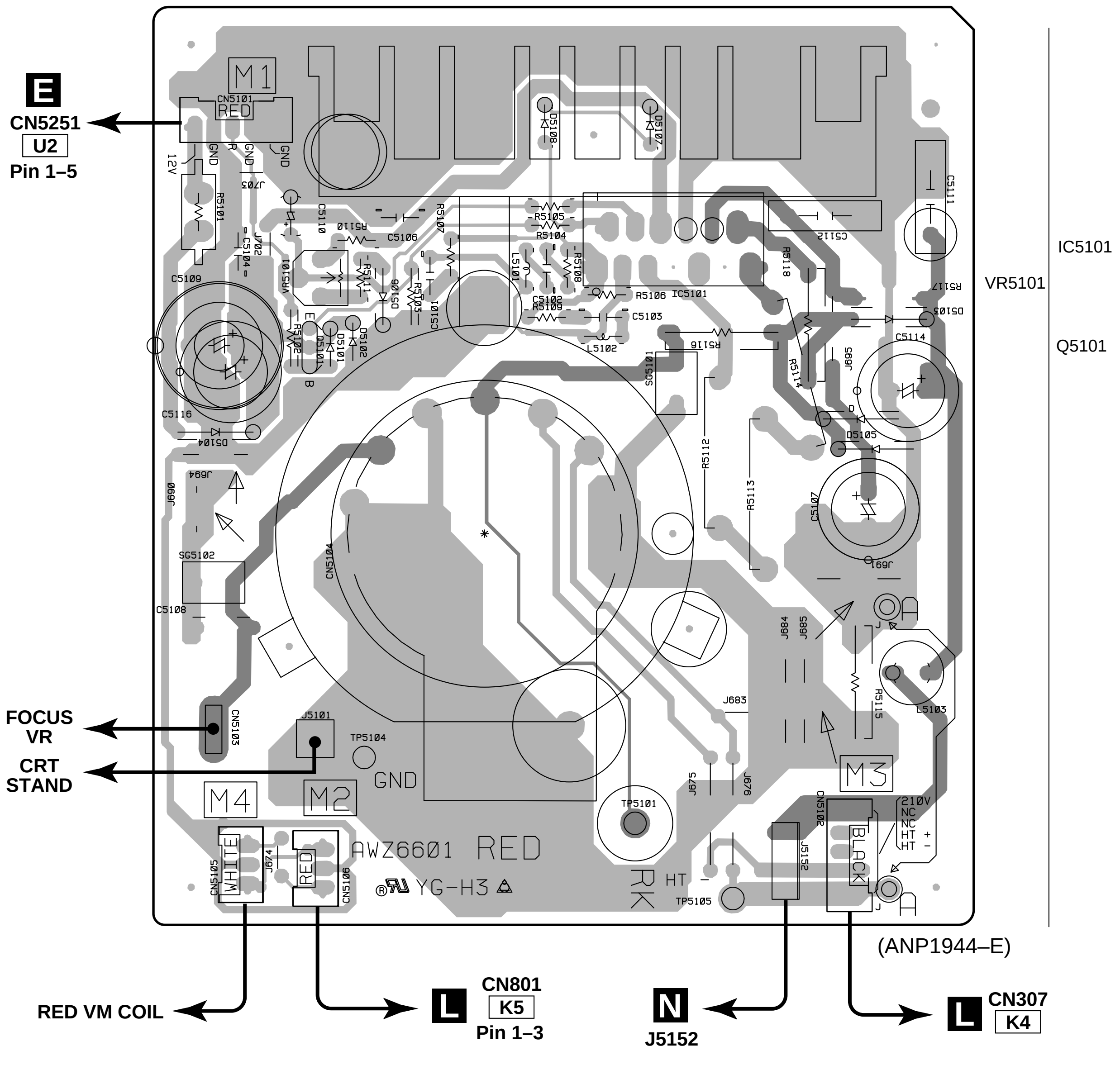

SIDE A
L-a L-b
CN2201 H Y1
CN2202 H Y4
CN1652 I H3
To V1 FOCUS VR
To L3 Deflection Yoke (BLUE)
To L2 Deflection Yoke (GREEN)
To L1 Deflection Yoke (RED)
GND
VM. Y
GND
DH
GND
DV
GND
DH. BLK
GND
V. BLKØ
GND
ABL
K6
K2
GND
GND
H. OSC. SW
H. PHA. ADJ
H. SIZS. ADJ
CPU. R
K3
RED
GND
CPU. R
H. V. PARA
PIN. KEY
V. BLKØ
DH. BLK
CN505
CN308
CN306
DV
DH V. BLKØ
TP307
TP308
TP306
TP305
DH. BLK
V. OSC. ADJ
V. BLK. ADJ
VR303
JP
VR302
V. OSC
TP302
IC301
TA8638N
AFC
TP301
VR301
H. OSC. ADJ
H. SIZE ADJ
CPU RESET
PIN. KEY
TP310
GND
ABL
IC303
NJM4558
DXP
C361
C360
2SC4686
Q753
2SC4686
Q754
K10
1. 2K
TP604
CN751
TP605
H. GND
SG751
H. OSC
TP304
CAUTION HIGH VOLTAGE
R392
D317
D316
K7
K8
K9
T301
L302
R334
R335
CN303
CN302
TP309
C319
D325
D326
R765
R757
R758
R768
R764
R760
R759
R761
R763
R767
R762
R766
R778
R777
R780
R775
R779
R773
R772
R781
R776
R774
R771
R770
R769
R395
D755
D754
D752
Q752
D751
C751
R756
R751
C753
J586
C752
Q751
D757
D753
D756
R783
R782
R752
R755
R754
R753
C755
C754

L-a L-b


O CN5207 P2
N CN5157 N2
M CN5106 M2
(ANP1975–A)
K5
B2 GND B1 G2 GND G1
CN801
2SC4793
2SA1837
PQ30RV11(A)
2SD1276A
NJM4558 DXP
12V
210V DOWN
210V ADJ
12V DOWN
H. DEF OVERLOAD
HV OVERLOAD
K12
K4
K1
135V VM. GND 30V GND
H. T- H. T+ N. C N. C 210V
STB 9V P. D H. T- H. T+ GND GND 13. 5V H. GND 25V H. GND 135V 135V
13. 5V
135V
P CN206 E6
M CN5102 M3
P CN207 E7
VR303
VR302
VR301
VR603
Q305 Q304 Q307 Q306 IC301
Q801–Q803 Q809
Q321 Q320
Q301 Q322 Q302
Q804–Q807 Q808
Q303 Q811
Q318 Q319
IC302 Q753 IC305 Q754 Q610
Q752 Q751 Q317 Q325 Q326 Q327
Q310 Q312 Q311 Q313
Q316 Q315 Q604 Q605
A B C D

4.8 R CRT DRIVE ASSY

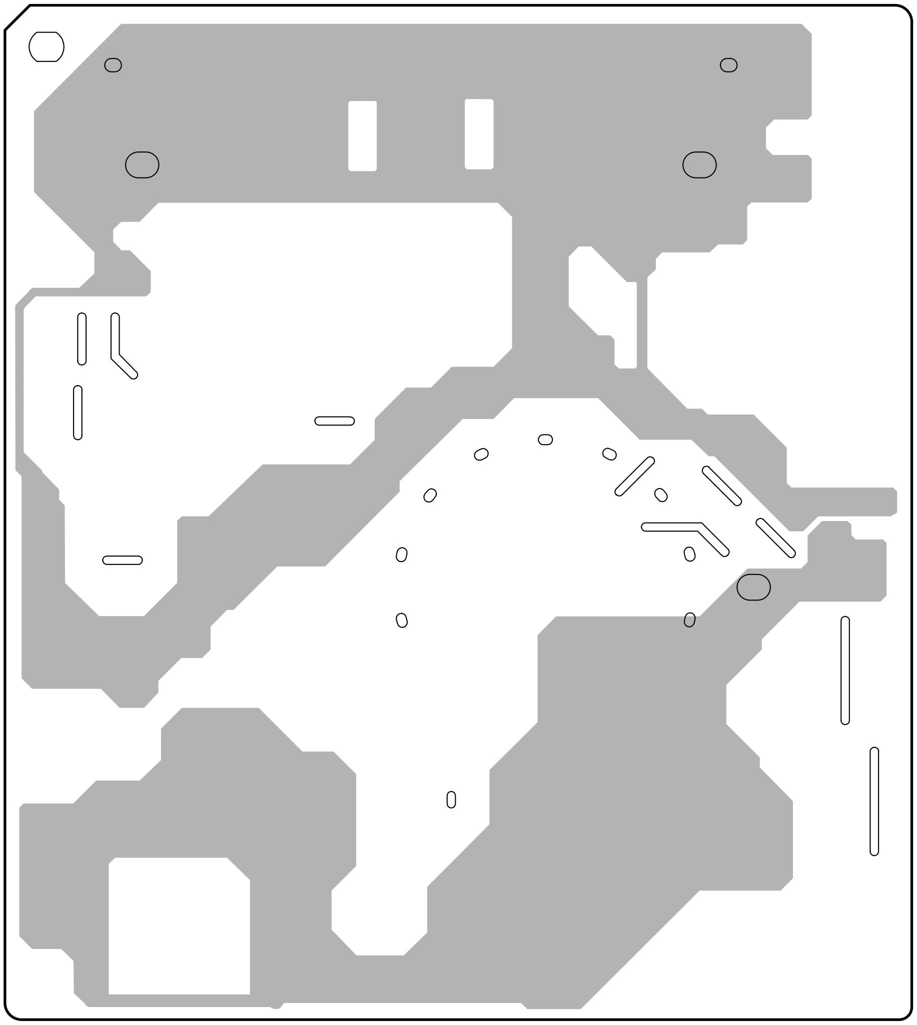
M R CRT DRIVE ASSY


E
CN5251
U2
Pin 1–5
M1
CN5101
RED
12V
GND
R
GND
GND
J705
R5101
C5110
R5110
C5106
R5107
R5105
R5104
R5108
C5112
C5111
R5118
R5117
D5103
D5108
D5107
J702
C5104
VR5101
R5111
D5100
R5103
C5101
L5101
C5102
R5109
R5106
IC5101
C5103
L5102
R5116
C5109
R5102
D5101
D5102
SG5101
R5114
J695
C5114
C5116
D5104
D5105
R5112
R5113
C5107
J690
J694
SG5102
C5108
CN5104
J691
J684
J685
R5115
L5103
J683
FOCUS
VR
CRT
STAND
CN5103
J5101
TP5104
GND
M3
M4
M2
J675
J676
TP5101
CN5102
210V
NC
NC
HT +
HT −
BLACK
J5152
WHITE
J674
RED
CN5105
CN5106
AWZ6601 RED
YG-H3
RK
HT
TP5105
IC5101
VR5101
Q5101
(ANP1944–E)
RED VM COIL
L
CN801
K5
Pin 1–3
N
J5152
L
CN307
K4

▨ : mark shows a high voltage generation point.

SIDE A

M R CRT DRIVE ASSY

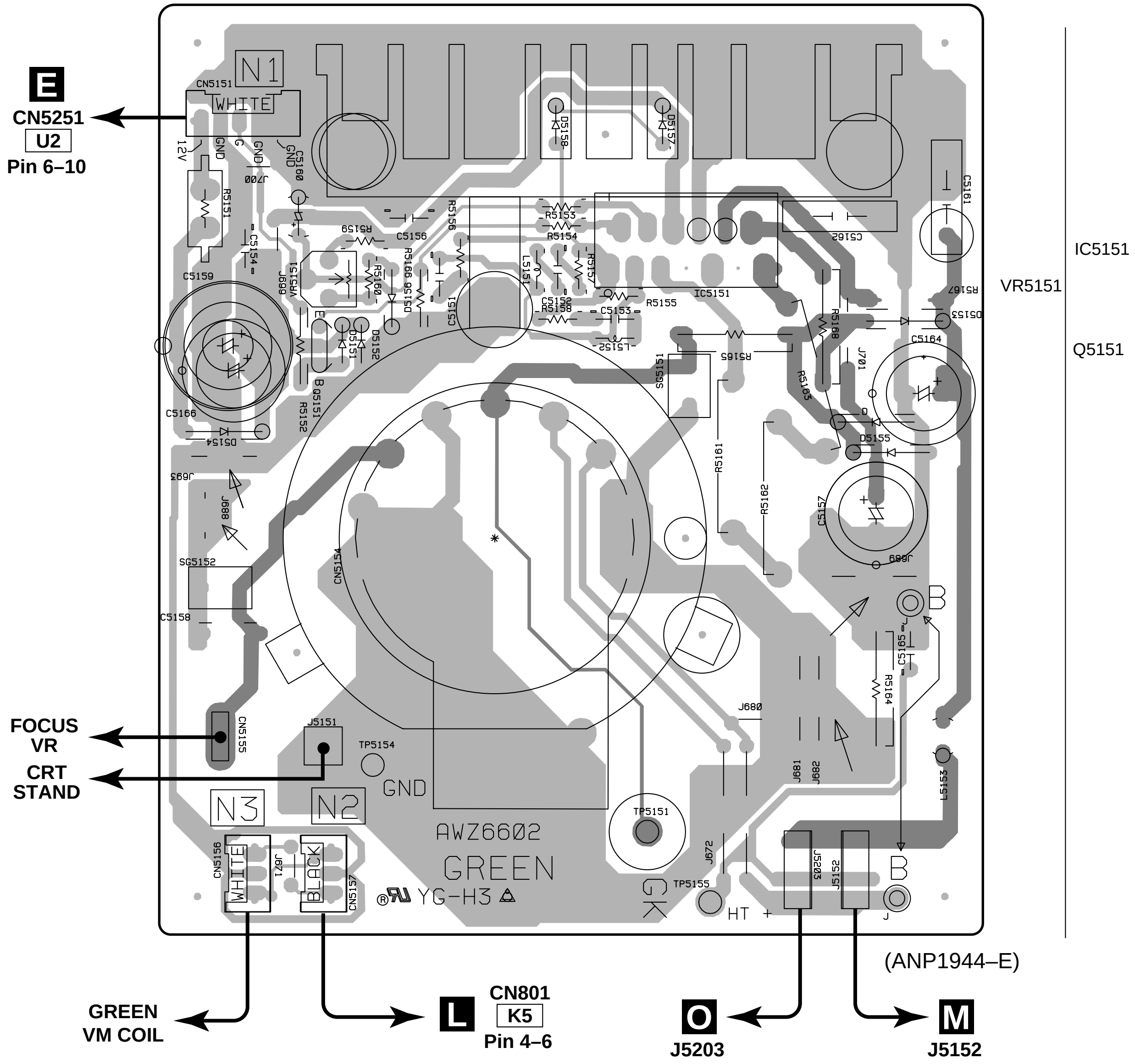


(ANP1944–E)

SIDE B

4.9 G CRT DRIVE ASSY

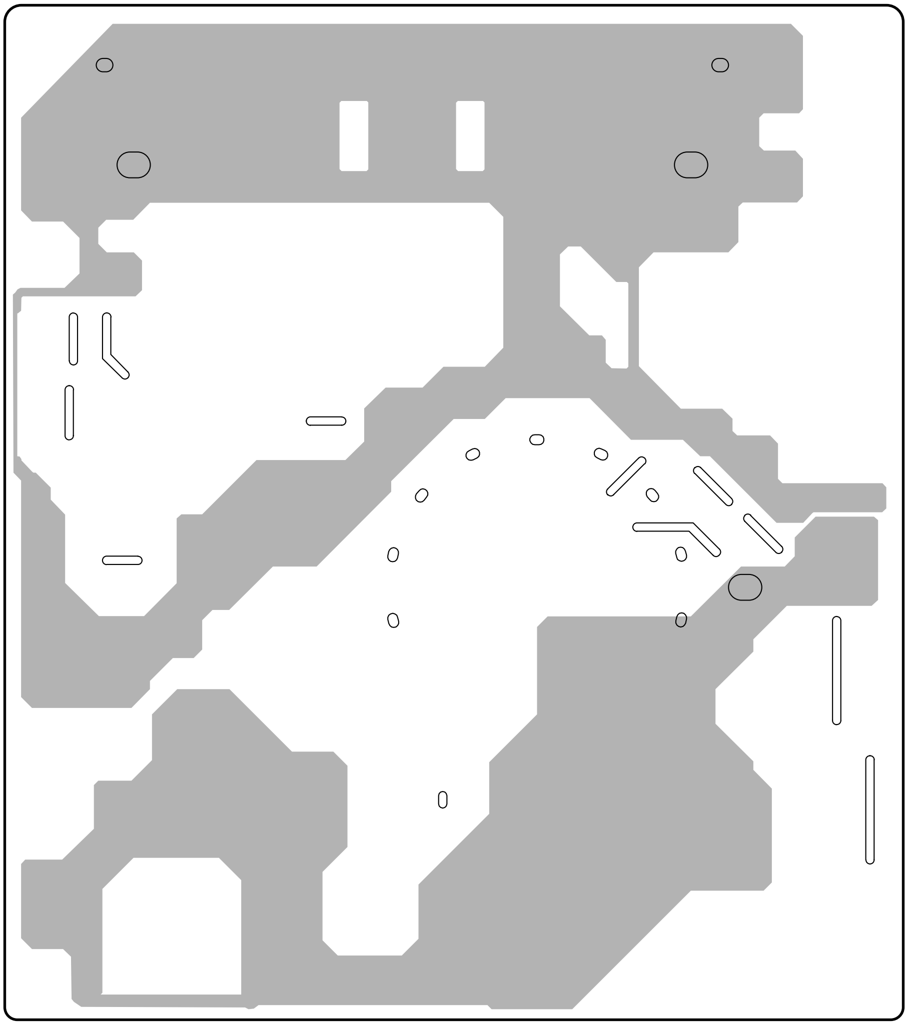
N G CRT DRIVE ASSY


E
CN5251
U2
Pin 6–10
N1
CN5151
WHITE
12V
GND
G
GND
GND
C5160
J700
R5151
C5154
C5159
C5166
D5154
J693
J688
SG5152
C5158
R5159
C5156
R5156
R5166
D5156
R5160
VR5151
J699
D5151
D5152
Q5151
R5152
C5151
L5151
D5158
D5157
R5153
R5154
R5157
C5152
R5158
C5153
L5152
R5155
IC5151
C5162
C5161
R5167
D5153
R5168
C5164
J701
R5165
R5163
SG5151
D5155
R5161
R5162
C5157
J689
CN5154
B
C5165
R5164
J680
J681
J682
L5153
FOCUS
VR
CN5155
J5151
TP5154
CRT
STAND
GND
N3
N2
AWZ6602
GREEN
YG-H3
TP5151
J672
TP5155
G K
HT +
J5203
J5152
B
J
CN5156
WHITE
J671
BLACK
CN5157
IC5151
VR5151
Q5151
(ANP1944–E)
GREEN
VM COIL
L
CN801
K5
Pin 4–6
O
J5203
M
J5152

▩ : mark shows a high voltage generation point.

SIDE A

N G CRT DRIVE ASSY

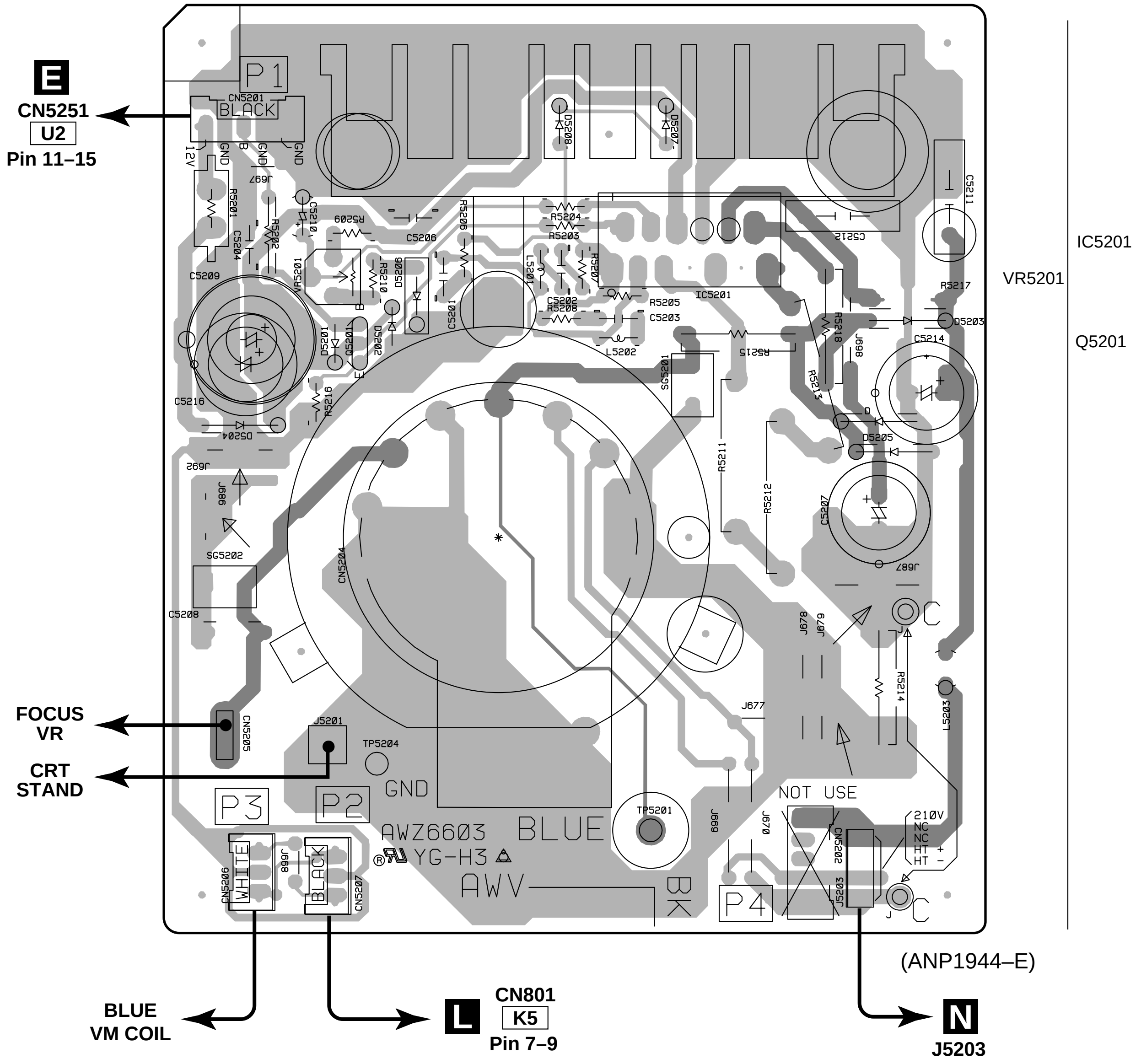


(ANP1944–E)

SIDE B

4.10 B CRT DRIVE ASSY

O B CRT DRIVE ASSY

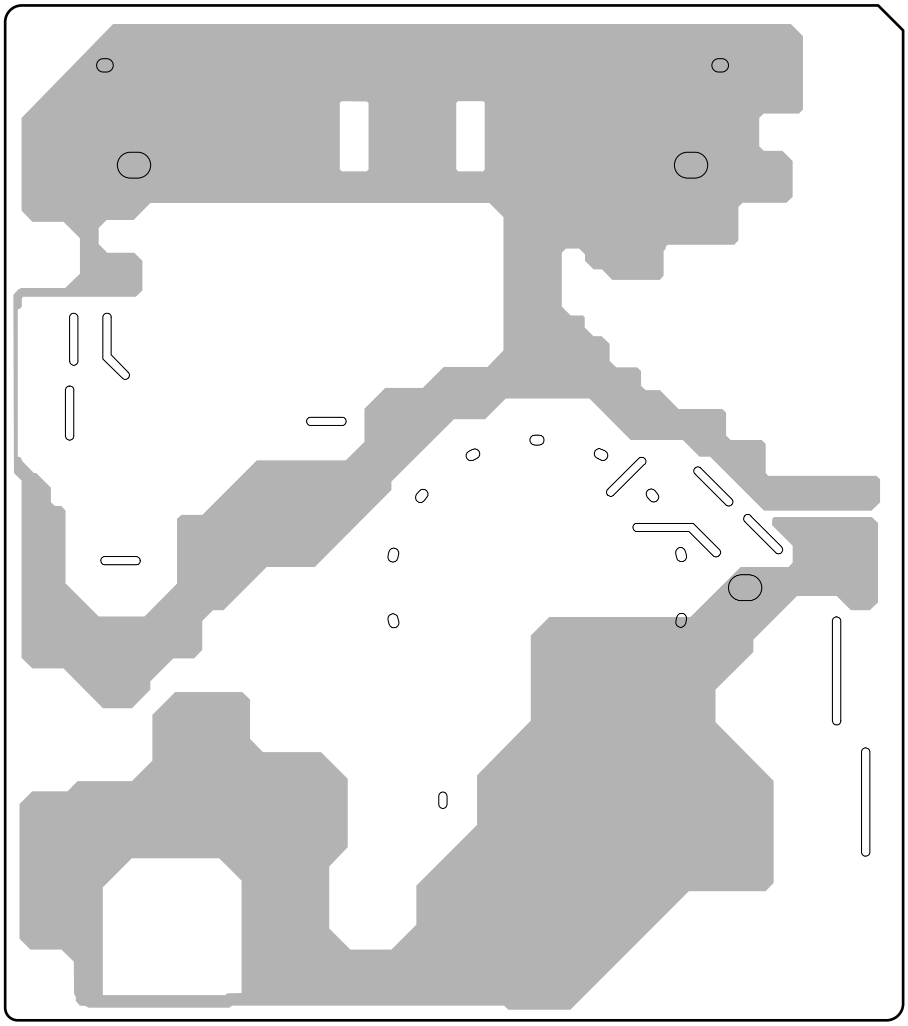

E
CN5251
U2
Pin 11–15
P1
CN5201
BLACK
12V
GND
B
GND
GND
J697
R5201
C5210
R5202
C5204
R5209
C5206
R5206
D5208
D5207
R5204
R5203
R5207
L5201
C5212
C5211
IC5201
VR5201
Q5201
R5217
C5209
VR5201
R5210
D5206
C5201
C5202
R5208
R5205
C5203
IC5201
L5202
R5215
R5218
J698
D5203
C5214
D5201
Q5201
D5202
SG5201
R5213
R5216
C5216
D5204
D5205
J692
J686
R5211
R5212
C5207
J687
SG5202
CN5204
C5208
J678
J679
R5214
L5203
J677
FOCUS
VR
CN5205
J5201
TP5204
CRT
STAND
GND
P3
P2
AWZ6603
BLUE
TP5201
J669
J670
NOT USE
CN5202
210V
NC
NC
HT +
HT -
YG-H3
AWV
BK
P4
J5203
CN5206
WHITE
J668
BLACK
CN5207
BLUE
VM COIL
L
CN801
K5
Pin 7–9
N
J5203

(ANP1944–E)

▨ : mark shows a high voltage generation point.

SIDE A

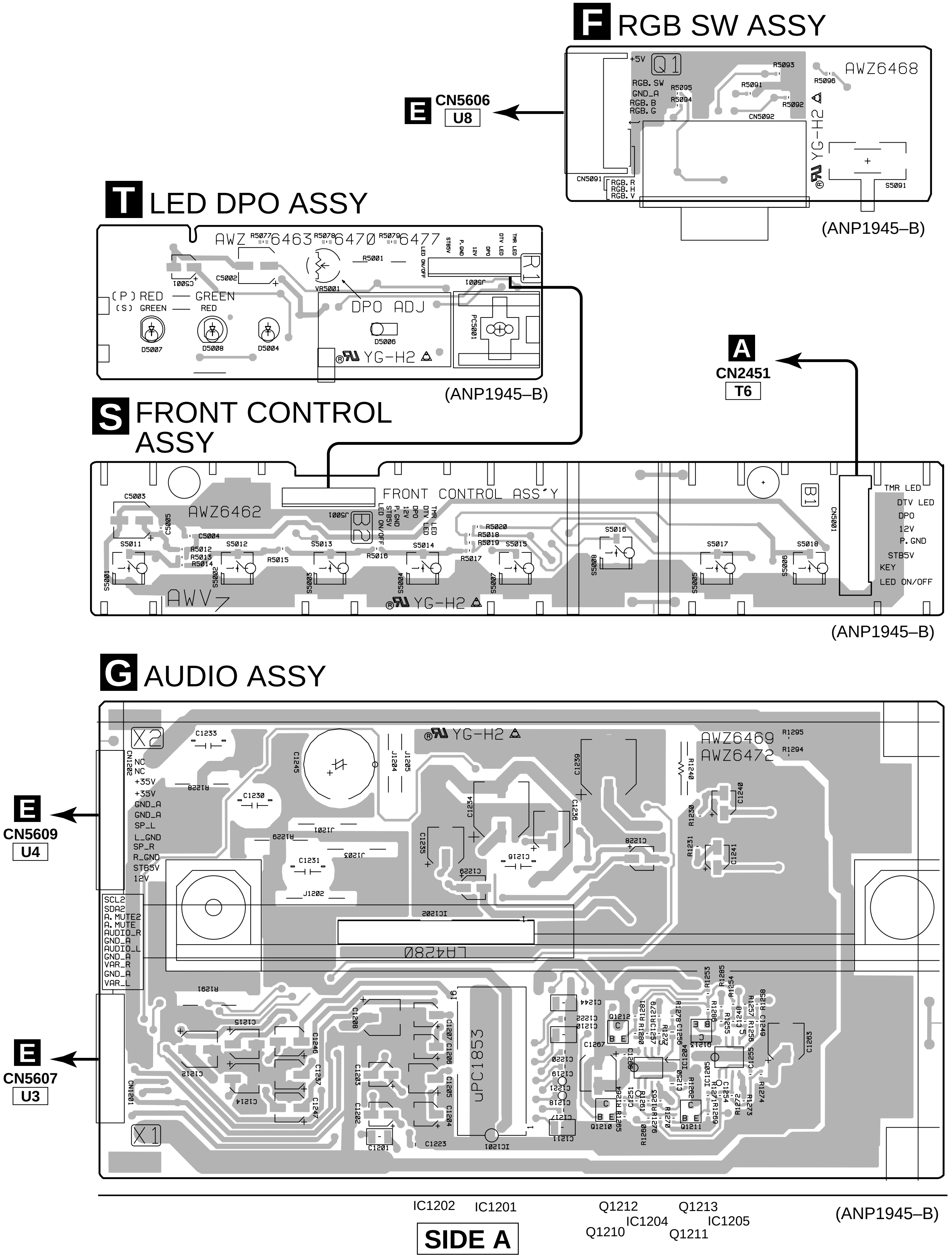
O B CRT DRIVE ASSY



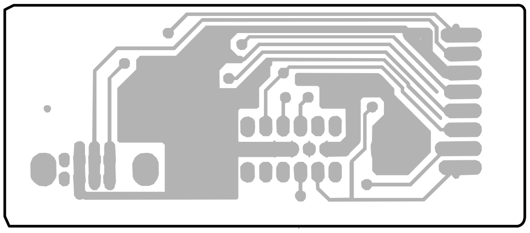
(ANP1944–E)

SIDE B

4.11 RGB SW, AUDIO, FRONT CONTROL and LED DPO ASSYS

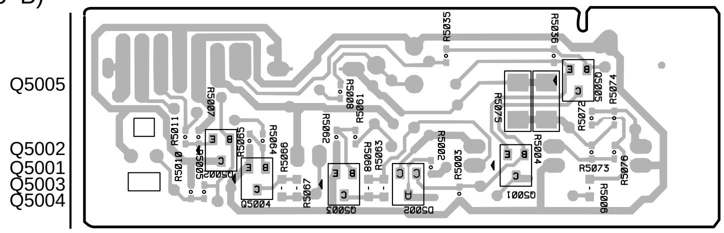

F RGB SW ASSY
AWZ6468
+5V
Q1
RGB. SW
GND_A
RGB. B
RGB. G
RGB. R
RGB. H
RGB. V
R5093
R5091
R5092
R5095
R5094
R5096
CN5092
CN5091
S5091
YG-H2
(ANP1945–B)
E CN5606 U8
T LED DPO ASSY
AWZ 6463 6470 6477
R5077
R5078
R5079
R5001
VR5001
C5001
C5002
J5001
R1
STB5V
P. GND
12V
DPO
DTV LED
TMR LED
LED ON/OFF
(P) RED — GREEN
(S) GREEN — RED
DPO ADJ
D5006
D5007
D5008
D5004
PC5001
YG-H2
(ANP1945–B)
A CN2451 T6
S FRONT CONTROL ASSY
FRONT CONTROL ASS'Y
AWZ6462
AWV
B2
B1
J5001
C5003
C5004
C5005
R5012
R5013
R5014
R5015
R5016
R5017
R5018
R5019
R5020
S5011
S5012
S5013
S5014
S5015
S5016
S5017
S5018
S5001
S5002
S5003
S5004
S5007
S5008
S5005
S5006
CN5001
TMR LED
DTV LED
DPO
12V
P. GND
STB5V
KEY
LED ON/OFF
YG-H2
(ANP1945–B)
G AUDIO ASSY
AWZ6469
AWZ6472
X2
X1
YG-H2
CN1202
NC
NC
+35V
+35V
GND_A
GND_A
SP_L
L_GND
SP_R
R_GND
STB5V
12V
SCL2
SDA2
A. MUTE2
A. MUTE
AUDIO_R
GND_A
AUDIO_L
GND_A
VAR_R
GND_A
VAR_L
CN1201
E CN5609 U4
E CN5607 U3
IC1202
LA4280
IC1201
uPC1853
J1201
J1202
J1203
J1204
J1205
C1233
C1245
C1230
C1231
C1234
C1235
C1236
C1239
C1240
C1241
R1228
R1229
R1230
R1231
R1240
R1294
R1295
R1291
C1215
C1212
C1214
C1246
C1237
C1247
C1208
C1203
C1202
C1201
C1207
C1206
C1205
C1204
C1223
C1244
C1222
C1210
C1267
C1220
C1219
C1221
C1218
C1211
Q1212
Q1213
Q1210
Q1211
IC1204
IC1205
R1253
R1285
R1254
R1258
R1260
R1264
R1265
R1273
R1274
C1263
IC1202
IC1201
Q1212
Q1213
Q1210
IC1204
IC1205
Q1211
(ANP1945–B)
SIDE A

F RGB SW ASSY



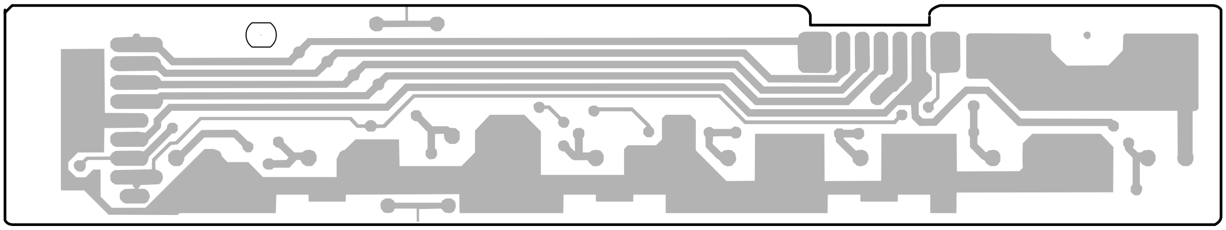
(ANP1945–B)

T LED DPO ASSY


Q5005
Q5002
Q5001
Q5003
Q5004
R5035
R5036
R5074
R5072
R5075
R5004
R5073
R5076
R5006
R5001
R5003
R5002
R5009
R5008
R5007
R5011
R5010
R5005
R5064
R5066
R5062
R5068
R5067
R5063
Q5001
Q5002
Q5003
Q5004
Q5005

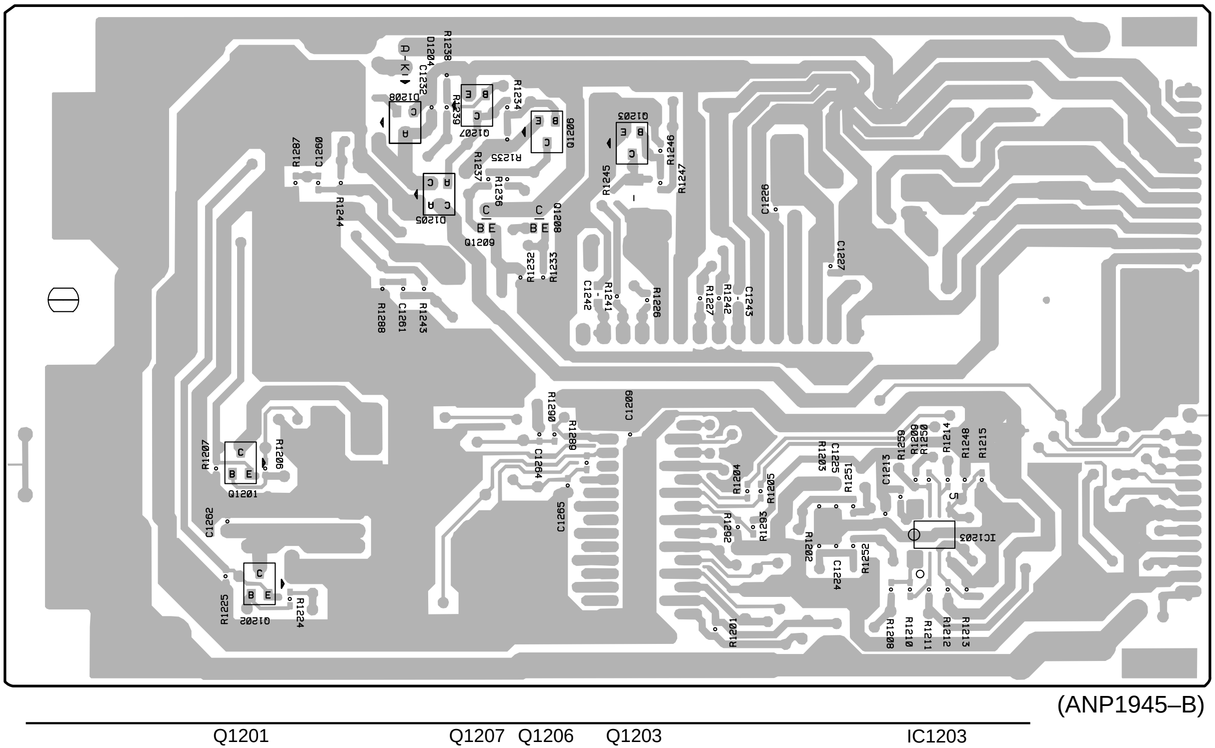
(ANP1945–B)

S FRONT CONTROL ASSY



(ANP1945–B)

G AUDIO ASSY


Q1201
Q1202
Q1207
Q1209
Q1206
Q1208
Q1203
IC1203
D1204
D1208
R1238
C1232
R1239
R1234
Q1207
Q1210
Q1203
R1246
R1247
R1245
R1235
R1237
R1236
Q1205
Q1209
Q1208
R1287
C1200
R1244
C1226
C1227
R1232
R1233
C1242
R1241
R1226
R1227
R1242
C1243
R1288
C1261
R1243
R1290
R1289
C1209
C1264
C1265
R1207
R1206
Q1201
C1262
R1225
R1224
Q1202
R1204
R1205
R1203
C1225
R1251
C1213
R1209
R1250
R1214
R1240
R1215
R1292
R1293
R1202
C1224
R1252
IC1203
R1201
R1208
R1210
R1211
R1212
R1213

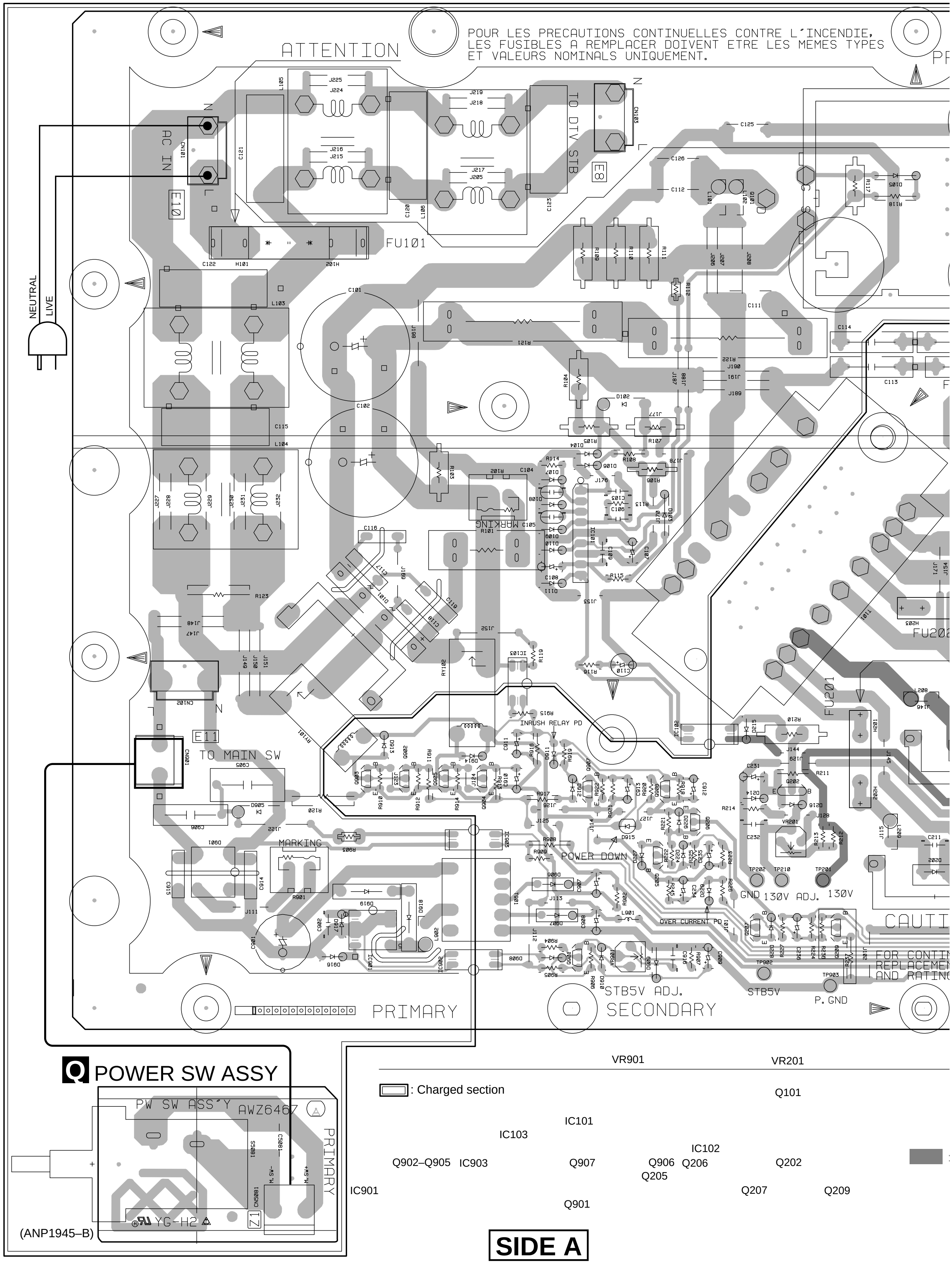
(ANP1945–B)

SIDE B

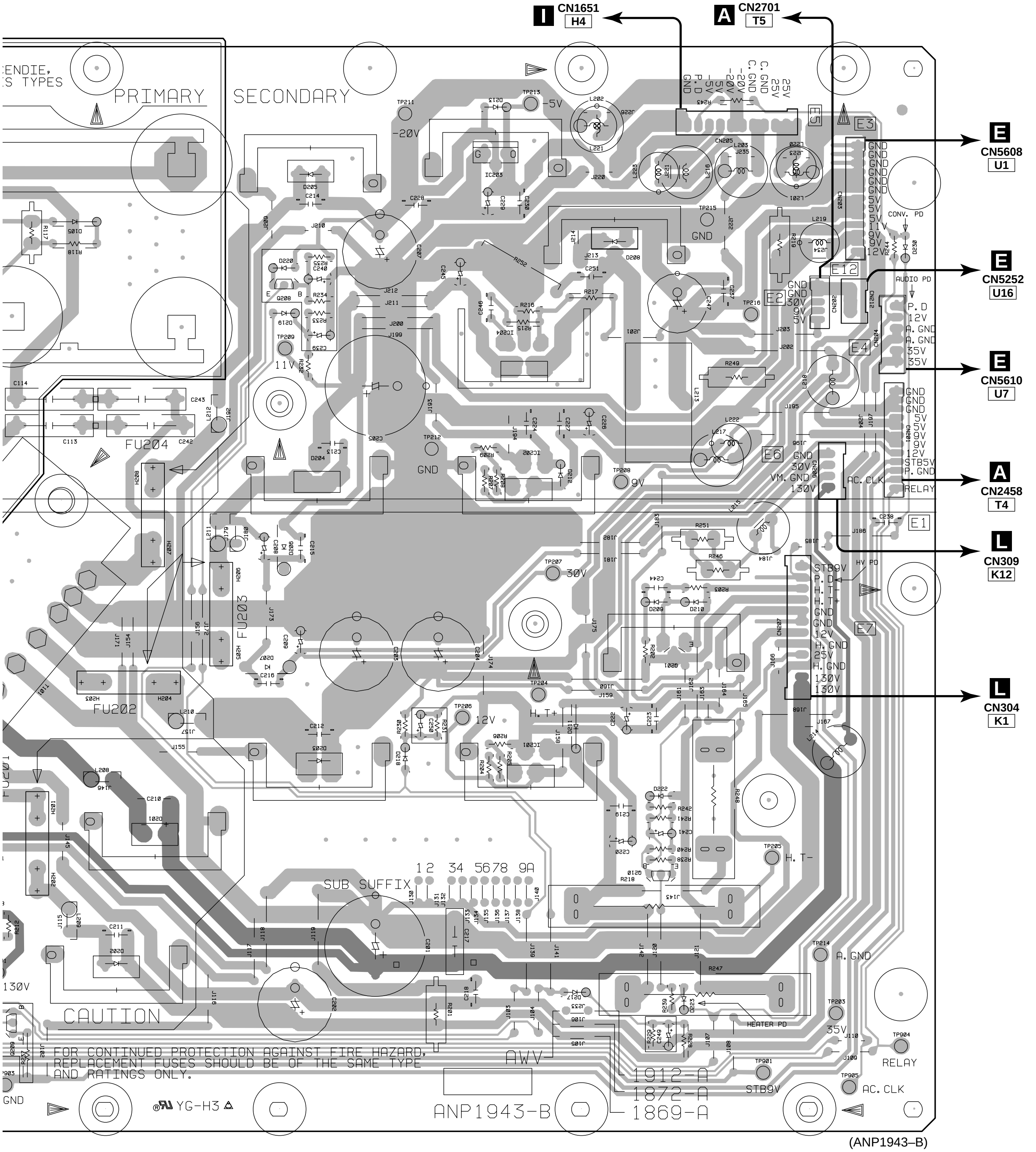
PRO-720HD, PRO-620HD, PRO-520HD
4.12 POWER SUPPLY and POWER SW ASSYS

P-a

P POWER SUPPLY ASSY


ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE,
LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES
ET VALEURS NOMINALS UNIQUEMENT.
AC IN
CN101
N
L
E10
TO DTV STB
CN103
E8
FU101
NEUTRAL
LIVE
C101
C102
C115
L103
L104
C116
RY101
CN102
E11
TO MAIN SW
CN901
MARKING
INRUSH RELAY PD
POWER DOWN
OVER CURRENT PD
GND
130V ADJ.
130V
STB5V ADJ.
STB5V
P.GND
PRIMARY
SECONDARY
FU201
FU202
CAUTI
FOR CONTIN
REPLACEMEN
AND RATING
TP202
TP210
TP201
TP902
TP903
VR901
VR201
Q101
IC101
IC103
IC102
Q902–Q905
IC903
Q907
Q906
Q206
Q202
Q205
IC901
Q207
Q209
Q901
: Charged section
Q POWER SW ASSY
PW SW ASS'Y AWZ6467
PRIMARY
YG-H2
CN5081
M.SW-
M.SW+
Z1
(ANP1945–B)

SIDE A



I CN1651 H4
A CN2701 T5
E CN5608 U1
E CN5252 U16
E CN5610 U7
A CN2458 T4
L CN309 K12
L CN304 K1
A
B
C
PRIMARY
SECONDARY
FU204
FU203
FU202
GND
11V
9V
30V
12V
-20V
-5V
H.T+
H.T-
A.GND
SUB SUFFIX
12 34 5678 9A
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
AWV
1912-A
1872-A
1869-A
ANP1943-B
YG-H3
HEATER PD
CONV. PD
AUDIO PD
HV PD
RELAY
AC.CLK
STB9V
130V
35V

(ANP1943–B)

IC203

Q208

IC204

IC202

IC201

Q201

▆ : mark shows a high voltage generation point (excepting the Charged section).

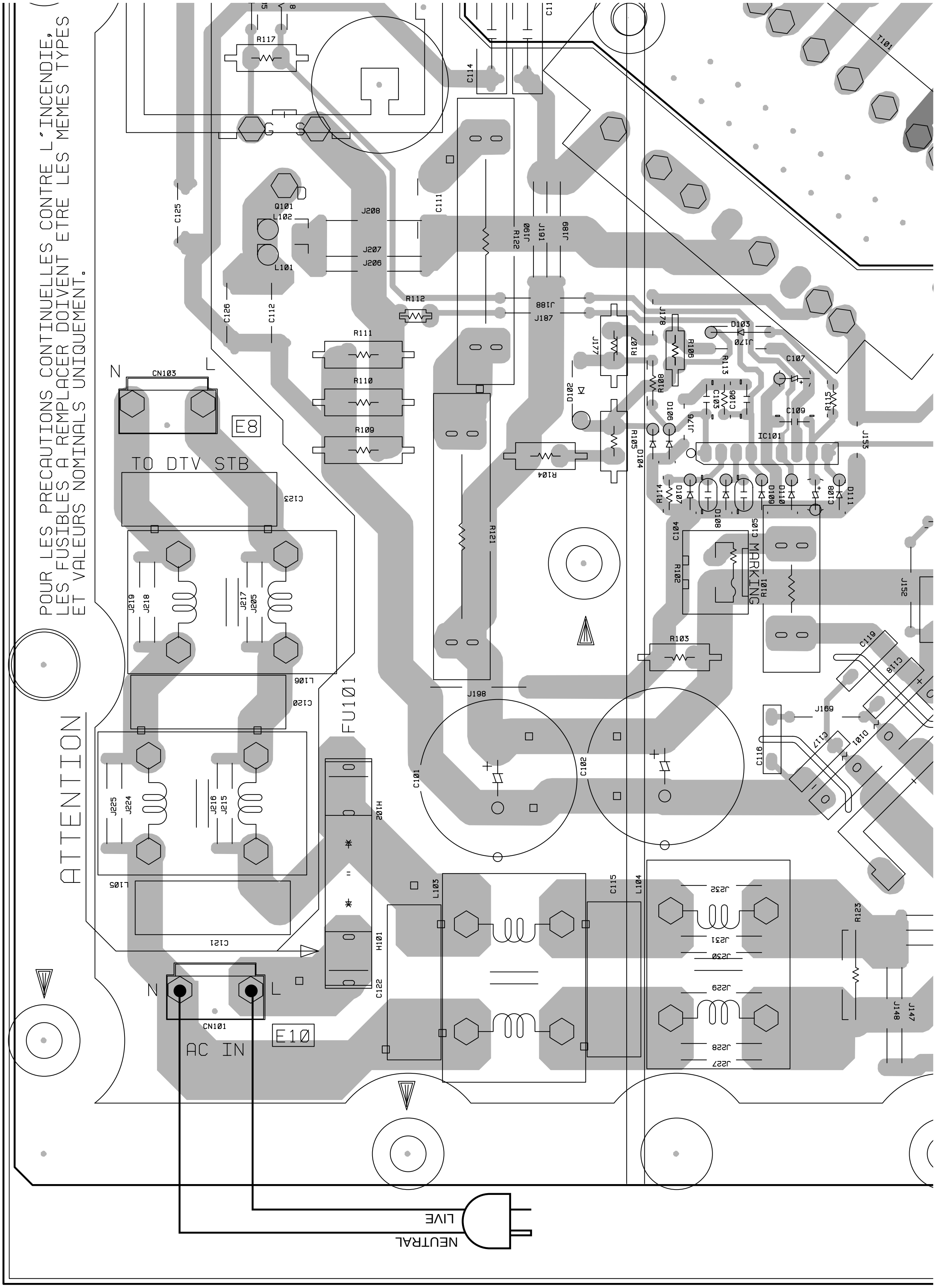
Q210

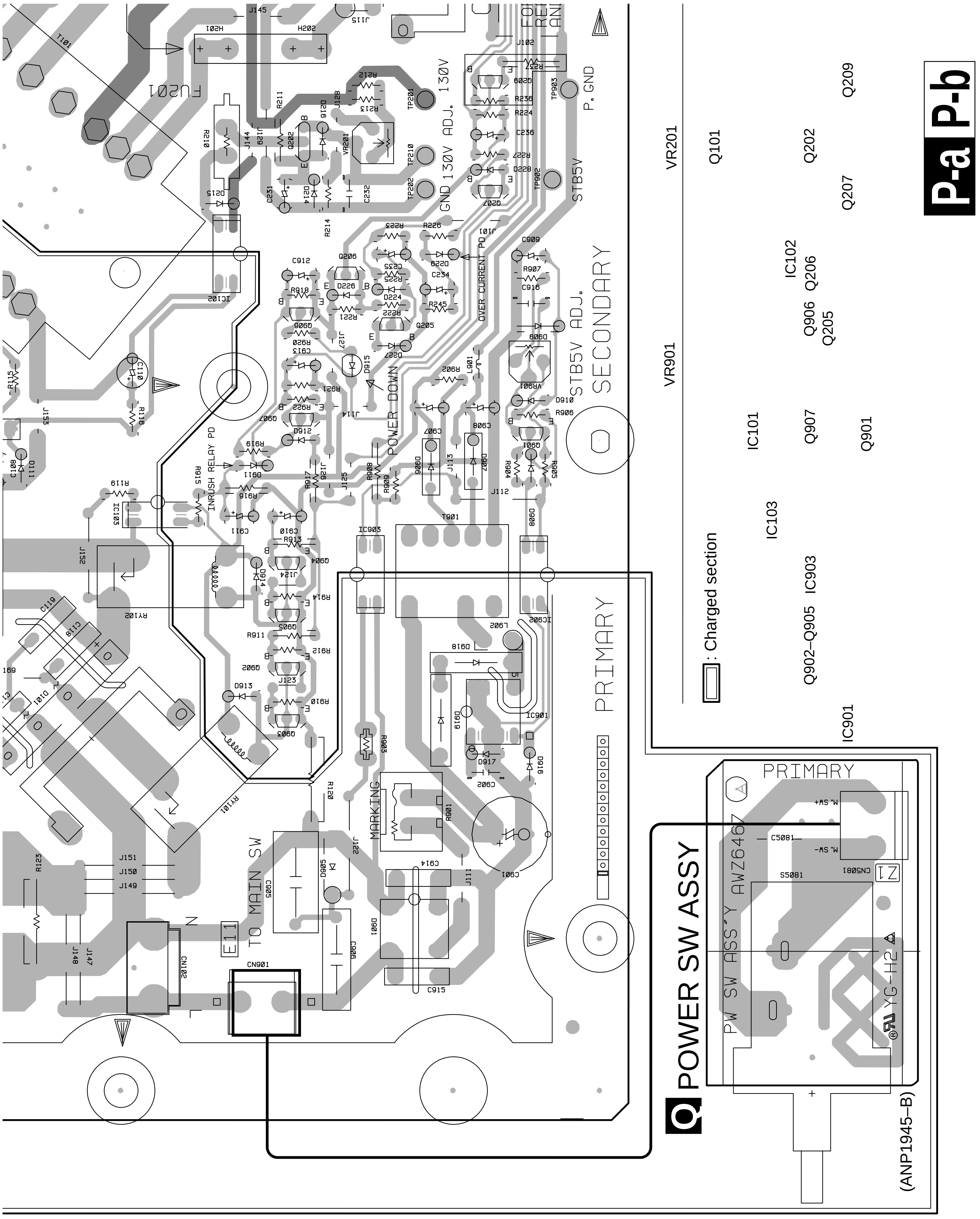
Q209

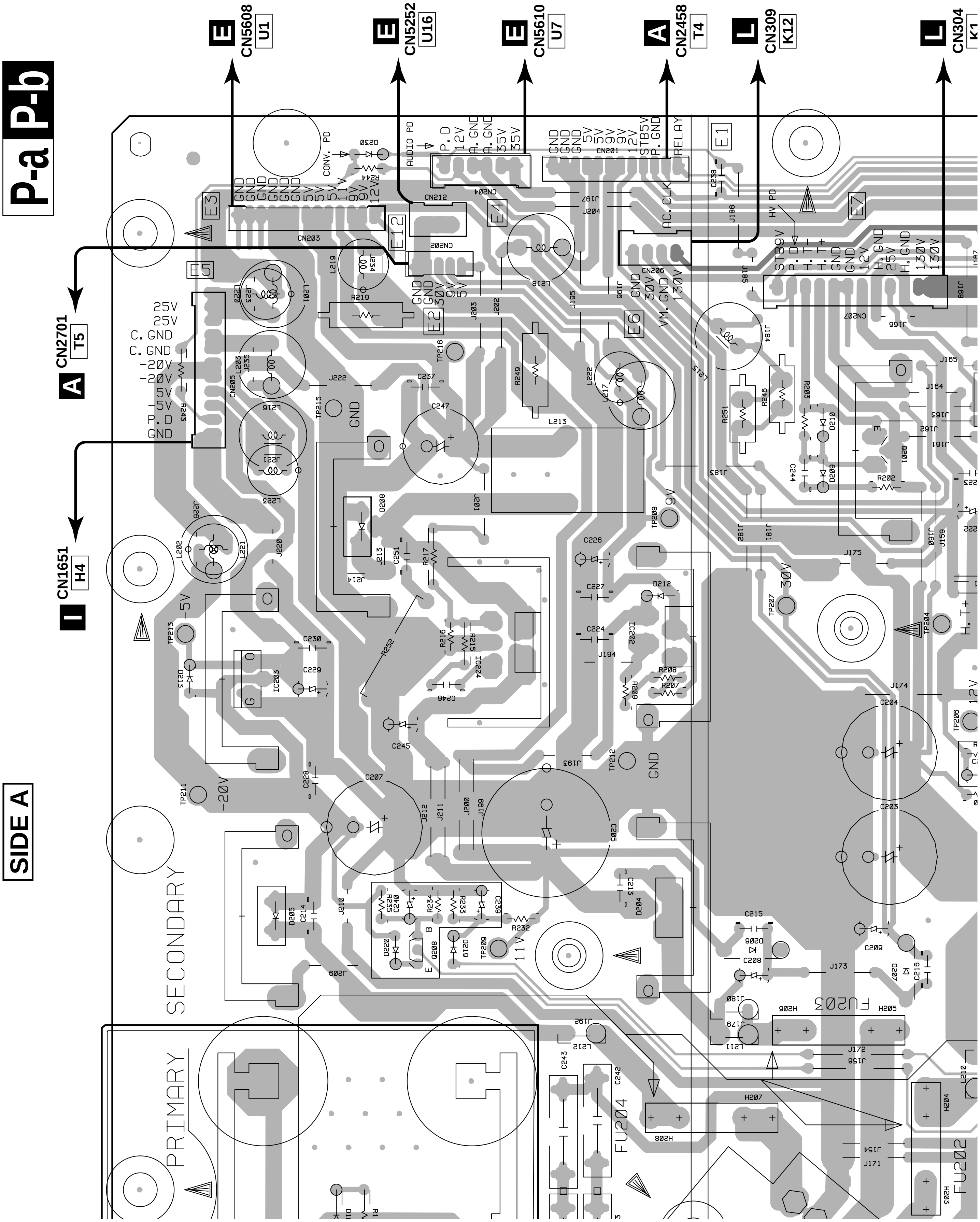
P-a P-b

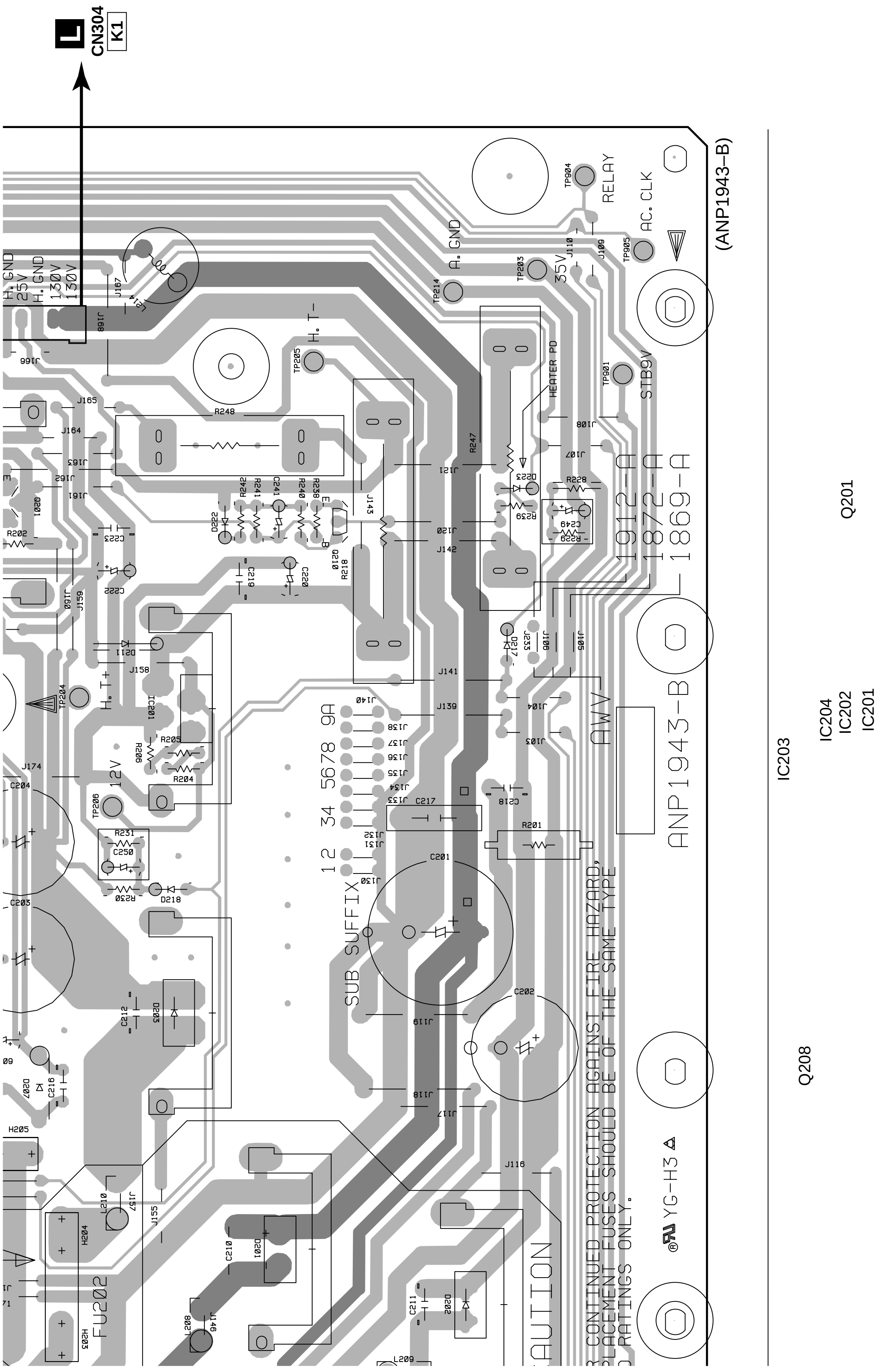
P POWER SUPPLY ASSY

SIDE A


POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
ATTENTION
TO DTV STB
AC IN
CN101
CN103
N
L
E8
E10
FU101
H101
H102
LIVE
NEUTRAL
MARKING
T101
IC101
Q101
G
S
D
L101
L102
L103
L104
L105
L106
C101
C102
C104
C105
C106
C107
C108
C109
C111
C112
C114
C115
C116
C117
C118
C119
C120
C121
C122
C123
C125
C126
R101
R102
R103
R104
R105
R106
R107
R108
R109
R110
R111
R112
R113
R114
R115
R117
R121
R122
R123
D101
D102
D103
D104
D106
D107
D108
D109
D110
D111
J147
J148
J152
J153
J169
J170
J176
J177
J178
J187
J188
J189
J190
J191
J198
J205
J206
J207
J208
J215
J216
J217
J218
J219
J224
J225
J227
J228
J229
J230
J231
J232


P-a P-b
Q POWER SW ASSY
PW SW ASS'Y AWZ6467
YG-H2
PRIMARY
SECONDARY
STB5V ADJ.
GND 130V ADJ. 130V
P.GND
STB5V
OVER CURRENT PD
POWER DOWN
INRUSH RELAY PD
TO MAIN SW
MARKING
FU201
CN901
CN5081
S5081
C5081
M.SW+
M.SW-
: Charged section
VR201
Q101
Q202
Q209
Q207
IC102
Q206
Q906
Q205
VR901
IC101
Q907
Q901
IC103
IC903
Q902–Q905
IC901
(ANP1945–B)


P-a P-b
SIDE A
E CN5608 U1
E CN5252 U16
E CN5610 U7
A CN2458 T4
L CN309 K12
L CN304 K1
A CN2701 T5
I CN1651 H4
CN203
GND GND GND GND GND GND 5V 5V 5V 11V 9V 9V 12V
CONV. PD
AUDIO PD
P. D 12V A.GND A.GND A.GND 35V 35V
CN204
GND GND GND 5V 5V 9V 9V 12V STB5V P. GND RELAY
CN201
AC. CLK
CN206
GND 30V VM. GND 130V
STB9V P. D H. T- H. T+ GND GND 12V H. GND 25V H. GND 130V 130V
CN207
CN212
CN202
GND GND 30V 9V 5V
CN205
25V 25V C. GND C. GND -20V -20V 5V -5V P. D GND
E1 E2 E3 E4 E5 E6 E7 E12
GND
9V
30V
-5V
-20V
11V
12V
H. T+
SECONDARY
PRIMARY
FU202 FU203 FU204
IC203 IC204 IC205
C203 C204 C205 C207
TP204 TP206 TP207 TP208 TP209 TP211 TP212 TP213 TP215 TP216


L
CN304
K1
(ANP1943–B)
RELAY
AC. CLK
TP904
TP905
A. GND
35V
TP203
TP214
H. T-
TP205
HEATER PD
STB9V
TP901
H. GND
25V
H. GND
130V
130V
R248
R247
R201
C201
C202
C217
C218
H. T+
12V
TP204
TP206
FU202
1912-A
1872-A
1869-A
ANP1943-B
AWV
SUB SUFFIX 12 34 5678 9A
CAUTION
R CONTINUED PROTECTION AGAINST FIRE HAZARD,
PLACEMENT FUSES SHOULD BE OF THE SAME TYPE
D RATINGS ONLY.
YG-H3
Q201
Q210
IC203
IC204
IC202
IC201
Q208

▨ : mark shows a high voltage generation point (excepting the Charged section).

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56×10^1 → 561 .... RD1/4PU $\boxed{5}\,\boxed{6}\,\boxed{1}$ J
47k Ω → 47×10^3 → 473 .... RD1/4PU $\boxed{4}\,\boxed{7}\,\boxed{3}$ J
0.5 Ω → R50 .... RN2H $\boxed{R}\,\boxed{5}\,\boxed{0}$ K
1 Ω → 1R0 .... RS1P $\boxed{1}\,\boxed{R}\,\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562×10^1 → 5621 .... RN1/4PC $\boxed{5}\,\boxed{6}\,\boxed{2}\,\boxed{1}$ F

- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by × are important parts which relate in X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		AV I/O ASSY	AWV1919
		BNC ASSY	AWV1920
		VIDEO ASSY	AWV1916
		SUB VIDEO SERVICE ASSY	AWV1922
		DEFLECTION SERVICE ASSY	AWV1921
		POWER SUPPLY ASSY	AWV1912
		SIGNAL ASSY	AWV1917
		├RF SWITCH	AXF1088
		├TV FRONT END SYSTEM UNIT	AXF1102
		└TV FRONT END SYSTEM UNIT	AXF1103
		AMP ASSY	AWV1914
		├CONV. AMP ASSY	AWZ6649
		├R CRT DRIVE ASSY	AWZ6601
		├G CRT DRIVE ASSY	AWZ6602
		└B CRT DRIVE ASSY	AWZ6603
		DIGITAL CONV. ASSY	AWV1915
		├DIGITAL CONV. ASSY	AWZ6460
		├CONNECTOR ASSY	AWZ6461
		├AUDIO ASSY	AWZ6472
		├FRONT CONTROL ASSY	AWZ6462
		├LED DPO ASSY	AWZ6470
		├SR ASSY	AWZ6465
		├FRONT INPUT ASSY	AWZ6466
		├POWER SW ASSY	AWZ6467
		└RGB SW ASSY	AWZ6468

A SIGNAL ASSY

• TUNER 1 BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC2701		PQ05DZ51
	IC2702		PQ09DZ11
	Q2701,Q2710,Q2720		2SA1162
	Q2702-Q2705,Q2707,Q2711,Q2716		2SC2712
	Q2719		2SC2712
	D2701-D2703,D2706,D2707,D2710		1SS226
	D2705		1SS352
	D2704		UDZ30B

COILS

Mark	No.	Description	Part No.
	L2707-L2710		QTL1013

CAPACITORS

Mark	No.	Description	Part No.
	C2701,C2722		CCSRCH470J50
	C2703,C2709,C2713,C2716,C2724		CEAT100M50
	C2729,C2741		CEAT100M50
	C2744		CEAT101M10
	C2710,C2720,C2730,C2739		CEAT471M10
	C2708,C2721,C2728		CEAT471M6R3
	C2702,C2704,C2723,C2725		CKSRYB102K50
	C2706,C2707,C2711,C2712		CKSRYB103K50
	C2717-C2719,C2727,C2731,C2732		CKSRYB103K50
	C2737,C2742		CKSRYB103K50

RESISTORS

Mark	No.	Description	Part No.
	R2728		RD1/2MMF271J
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	2704,2705	PLUG CORD	ADE1171
	J2703	10P HOUSING WIRE	ADX2496
	J2701	3P HOUSING WIRE	ADX2567
	CN2701	CONNECTOR 5-P	S5B-PH-SM3

• TUNER 2 BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC2801		CXA2094Q
	IC2802		MC14066BF
	Q2804		2SA1162
	Q2801-Q2803		2SC2712
	D2801,D2802		1SS226

CAPACITORS

Mark	No.	Description	Part No.
	C2812 (33µF/50V)		ACH1128
	C2814 (10µF/50V)		ACH1129
	C2819,C2820		CCSRCH101J50
	C2818		CEAT101M10
	C2801,C2803,C2808,C2809,C2813		CEAT4R7M50

Mark	No.	Description	Part No.
	C2824,C2825		CEAT4R7M50
	C2804		CEHAQ100M50
	C2802,C2815		CEHAQ1R0M50
	C2806,C2807		CEHAQ4R7M50
	C2810		CFHSQ272J50
	C2811		CKSQYB473K50
	C2805,C2821-C2823		CKSRYB103K50
	C2816		CKSRYB123K50
	C2817		CKSRYB562K50

RESISTORS

Mark	No.	Description	Part No.
	R2806		RS1/16S6202F
	Other Resistors		RS1/16S□□□J

• MAIN UCOM BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC2454		24LC32A(I)P
	IC2451		MC14066BF
	IC2452		PD5717A
	IC2453		PST9146N
	Q2452,Q2454		2SA1162
	Q2453,Q2455-Q2457,Q2459-Q2461		2SC2712
	Q2463,Q2464		2SC2712
	Q2451		2SC4213
	Q2458		2SJ461
	D2454,D2455,D2490		1SS184
	D2456,D2457,D2460-D2469		1SS226
	D2475,D2476,D2479-D2484,D2486		1SS226
	D2488		1SS226
	D2451-D2453,D2458,D2459,D2485		1SS352
	D2489		1SS352

COILS AND FILTERS

Mark	No.	Description	Part No.
	L2457		ATF-163
	L2451,L2452		ATX1035

CAPACITORS

Mark	No.	Description	Part No.
	C2454,C2462,C2467,C2473		CEHAT101M10
	C2476		CEHAT220M50
	C2478		CEHAT222M10
	C2453,C2455		CEHAT470M16
	C2481		CEHAT472M25
	C2451,C2452		CEHAT4R7M50
	C2459,C2464		CKSRYB102K50
	C2457,C2458,C2460,C2463,C2465		CKSRYB103K50
	C2468-C2472,C2474		CKSRYB103K50
	C2456		CKSRYB104K16
	C2461,C2480		CKSRYF104Z16

RESISTORS

Mark	No.	Description	Part No.
	R2570,R2584	(22kΩ)	ACN7073
	R2475,R2476,R2481-R2487	(100Ω)	DCN1092
	R2496,R2498,R2499	(100Ω)	DCN1092
	R2502,R2510,R2525	(100Ω)	DCN1092
	R2524,R2554,R2567	(10kΩ)	DCN1094
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	X2451	CERAMIC RESONATOR	ASS1015
	J24513P	HOUSING WIRE	ADX2499
	CN2457	L-PLUG (8P)	KM250MA8L
	CN2454	PLUG 50-P	AKM1126
	CN2451	L-PLUG (8P)	KM250MA8LR
	CN2458	PH CONNECTOR (12P)	S12B-PH-SM3
	CN2455	CONNECTOR (3P)	S3B-PH-SM3
	CN2453	CONNECTOR (3P)	S8B-PH-SM3

• 3D Y/C BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC7002		IS41C16256-35K
	IC7004		PQ3DZ13
	IC7001		UPD64082GF-3BA
	Q7002,Q7003,Q7009		2SA1162
	Q7001,Q7004-Q7008		2SC2712
	Q7010-Q7015		2SC2712

COILS

Mark	No.	Description	Part No.
	L7017	(5.6μH)	ATH1107
	L7015,L7018,L7019		LCTA220J2520
	L7021		LCTA470J2520
	L7014		LCTA8R2J2520
	L7008,L7011		LFEA100J
	L7009,L7012		LFEA150J
	L7010		LFEA220J
	L7001		LFEA4R7J

CAPACITORS

Mark	No.	Description	Part No.
	C7014		CCSQCH102J50
	C7051,C7062		CCSQCH121J50
	C7008		CCSQSL391J50
	C7057,C7063		CCSRCH100D50
	C7047,C7050		CCSRCH220J50
	C7002		CCSRCH270J50
	C7003,C7059		CCSRCH330J50
	C7058,C7064		CCSRCH560J50
	C7025,C7033,C7038,C7039,C7049		CEHAT101M10
	C7034,C7036		CEHAT102M6R3
	C7019,C7055		CEHAT1R0M50
	C7045		CEHAT470M16
	C7001,C7004-C7007,C7009-C7013		CKSRYB103K50
	C7015-C7018,C7020-C7022,C7032		CKSRYB103K50
	C7035,C7037,C7041-C7044,C7046		CKSRYB103K50
	C7048,C7056		CKSRYB103K50

RESISTORS

Mark	No.	Description	Part No.
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	X7001	(20MHz)	ASS1140

• MAIN COLOR DECODER BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC7103		NJM2233BM
	IC7101		TA1270BF
	IC7102		TK15420M
	Q7123		2SA1162
	Q7104,Q7105,Q7111-Q7113		2SC2712
	Q7115,Q7116		2SC2712

COILS

Mark	No.	Description	Part No.
	L7105		LCTA5R6J2520
	L7107		LFA5R6J

Mark	No. Description	Part No.

CAPACITORS

	C7140	CCSQCH120J50
	C7102	CCSQSL222J50
	C7125,C7126	CEAT100M50
	C7105	CEAT102M6R3
	C7135	CEAT220M50
	C7103,C7104	CEAT2R2M50
	C7128,C7130	CEAT470M16
	C7115	CEATR22M50
	C7143	CEHAT470M16
	C7107	CFHS223J16
	C7114	CKSQYB474K16
	C7117,C7120,C7127,C7129,C7144	CKSRYB103K50
	C7148	CKSRYB103K50
	C7106,C7108-C7113	CKSRYB104K16

RESISTORS

	Other Resistors	RS1/16S☐☐☐J

OTHERS

	X7102 CERAMIC RESONATOR	ASS1019
	X7101 (3.58MHz)	ASS1138

• SUB COLOR DECODER BLOCK

SEMICONDUCTORS

	IC7303	NJM2233BM
	IC7300	TA1270BF
	IC7308	TA78M05F
	IC7307	TC90A45F
	IC7302,IC7304	TK15420M
	Q7316,Q7318,Q7319	2SA1162
	Q7303,Q7304,Q7309,Q7314,Q7315	2SC2712
	Q7317,Q7320,Q7326	2SC2712
	Q7307,Q7308,Q7310	2SC4213

COILS

	L7306,L7307	LFA120J
	L7302	LFEA101J
	L7303	LFEA220J

CAPACITORS

	C7340	CCSQCH120J50
	C7355,C7357	CCSQCH181J50
	C7301	CCSQSL222J50
	C7356,C7372	CCSRCH330J50
	C7329,C7330	CEAT100M50
	C7308,C7309	CEAT101M10
	C7358	CEAT1R0M50
	C7337-C7339	CEAT220M50
	C7302,C7303	CEAT2R2M50
	C7304,C7349,C7351	CEAT470M10
	C7332,C7335,C7342	CEAT470M16
	C7300	CEATR22M50
	C7307	CFHS223J16
	C7317	CKSQYB474K16
	C7305,C7310,C7319,C7323,C7327	CKSRYB103K50
	C7331,C7333,C7348,C7350	CKSRYB103K50
	C7352-C7354,C7366-C7369,C7371	CKSRYB103K50
	C7306,C7311-C7316	CKSRYB104K16

Mark	No. Description	Part No.

RESISTORS

	All Resistors	RS1/16S☐☐☐J

OTHERS

	X7301 CERAMIC RESONATOR	ASS1019
	X7300 (3.58MHz)	ASS1138

• TWIN-P BLOCK

SEMICONDUCTORS

	IC7703	CM0010AF
	IC7704	KIA431F
	IC7702	LC32V4265JL-25S
	IC7503	MC14053BF
	IC7701	PQ3DZ13
	IC7502	TK15420M
	Q7501,Q7504,Q7506	2SA1162
	Q7507-Q7525,Q7531	2SC2712

COILS AND FILTERS

	F7701,F7703	ATF1189
	L7707,L7708	LCTA8R2J2520
	L7506	LFA5R6J
	L7504	LFEA100J
	L7505	LFEA220J
	L7705,L7706	QTL1013

CAPACITORS

	C7520,C7521,C7523,C7524	CCSRCH101J50
	C7526,C7527	CCSRCH101J50
	C7550	CCSRCH180J50
	C7532,C7535,C7551,C7552	CCSRCH330J50
	C7512	CCSRCH680J50
	C7522,C7725-C7730,C7760	CEAT100M50
	C7515,C7706,C7755	CEAT101M10
	C7511,C7704,C7705	CEAT221M10
	C7505,C7506,C7548,C7716,C7734	CEAT470M10
	C7525	CEHAT100M50
	C7529	CEHAT470M16
	C7745-C7753,C7761-C7763,C7769	CKSQYF105Z16
	C7772	CKSQYF105Z16
	C7754,C7765	CKSQYF224Z25
	C7502,C7503,C7507,C7514,C7528	CKSRYB103K50
	C7701-C7703,C7707-C7715	CKSRYB103K50
	C7717-C7722,C7731,C7733	CKSRYB103K50
	C7735-C7744,C7766	CKSRYB103K50
	C7724,C7767,C7768,C7770,C7771	CKSRYB104K16
	C7756,C7758	CKSRYB152K50
	C7764	CKSRYF473Z50

RESISTORS

	R7710-R7713 (22kΩ)	ACN7073
	R7714-R7720,R7753 (100Ω)	DCN1092
	R7730	RS1/16S1002F
	R7729	RS1/16S1502F
	Other Resistors	RS1/16S☐☐☐J

OTHERS

	CN7501 PLUG 44-P	AKM1155

• COMPONENT BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC6305		CXA1315M
	IC6302-IC6304		TC74HC4053AF
	Q6301,Q6303,Q6304		2SA1162
	Q6306,Q6308,Q6310		2SA1162
	Q6316-Q6318,Q6322,Q6324		2SA1162
	Q6325,Q6361,Q6363		2SA1162
	Q6328-Q6360,Q6362		2SC2712
	D6301-D6306,D6316-D6320		1SS226
	D6310,D6313		1SS352

COIL

	L6302		LFEA220J

CAPACITORS

	C6373,C6374		CCSQCH470J50
	C6325,C6348		CEAT100M50
	C6301-C6306,C6368-C6370		CEAT220M50
	C6332,C6339,C6355,C6357		CEAT470M16
	C6363-C6365		CEAT470M16
	C6326,C6349		CEAT4R7M50
	C6307,C6311,C6321,C6328		CKSRYB103K50
	C6330,C6331,C6333,C6335-C6338		CKSRYB103K50
	C6340,C6342-C6345,C6351,C6356		CKSRYB103K50
	C6358-C6362,C6366,C6367		CKSRYB103K50

RESISTORS

	Other Resistors		RS1/16S□□□J

B AV I/O ASSY

SEMICONDUCTORS

	IC6001		CXA2069Q
	IC6201,IC6202		MC14066BF
	Q6004,Q6012,Q6014,Q6015,Q6019		2SA1162
	Q6022,Q6024,Q6025,Q6034		2SA1162
	Q6036-Q6038,Q6201,Q6206,Q6212		2SA1162
	Q6214,Q6216-Q6218		2SA1162
	Q6001-Q6003,Q6005-Q6011,Q6013		2SC2712
	Q6016-Q6018,Q6020,Q6021,Q6023		2SC2712
	Q6027-Q6033,Q6035,Q6039-Q6048		2SC2712
	Q6202-Q6204		2SC2712
	Q6205,Q6207-Q6211,Q6213,Q6215		2SC2712
	D6040,D6041,D6207		1SS184
	D6001-D6022,D6024,D6027-D6029		1SS226
	D6032,D6034,D6036,D6208-D6212		1SS226
	D6023,D6030,D6031,D6037-D6039		1SS352
	D6201-D6203,D6213		1SS352
	D6214		UDZS6.2B
	D6204		RD6.8MB

CAPACITORS

	C6006,C6049,C6052,C6068,C6081		CEV100M16
	C6086		CEV100M16
	C6047		CEV101M6R3
	C6073,C6074		CEV102M6R3
	C6013,C6014,C6026,C6027		CEV1R0M50
	C6031,C6032,C6036,C6037		CEV1R0M50
	C6041-C6043,C6065,C6078,C6209		CEV1R0M50
	C6015-C6017,C6024,C6028,C6029		CEV220M16
	C6033,C6034,C6051,C6064,C6070		CEV220M16
	C6072,C6083,C6088		CEV220M16
	C6204		CEV470M6R3
	C6001,C6004,C6018,C6020,C6045		CEV470M16
	C6059-C6061,C6085,C6208,C6210		CEV470M16
	C6214,C6216		CEV470M16
	C6007,C6050,C6053,C6069,C6082		CEV4R7M35
	C6087		CEV4R7M35
	C6046		CEVNP470M6R3
	C6077		CEVNPR47M50
	C6067		CEVR47M50
	C6002,C6003,C6009-C6012		CKSQYF105Z16
	C6090,C6091,C6212,C6213		CKSQYF105Z16
	C6075,C6076		CKSRYB332K50
	C6005,C6008,C6021-C6023		CKSRYF103Z50
	C6038-C6040,C6044,C6048		CKSRYF103Z50
	C6201,C6203		CKSRYF103Z50
	C6054-C6058,C6062,C6063,C6071		CKSRYF103Z50
	C6084,C6089,C6205-C6207,C6215		CKSRYF103Z50
	C6019,C6025,C6030,C6035		CKSRYF104Z16
	C6202		CKSQYF472Z50

RESISTORS

	R6183		RD1/2LMF1R0J
	R6182		RD1/4LMF3R9J
	R6003,R6042,R6168,R6169		RS1/10S151J
	R6090,R6107		RS1/10S182J
	R6007,R6008,R6046,R6047		RS1/10S361J
	R6195-R6198,R6238,R6239		RS1/10S361J
	R6294,R6295		RS1/10S361J
	Other Resistors		RS1/16S□□□J

OTHERS

	CN6001	PIN JACK (6P) WITH SIN	AKB1271
	CN6002	PIN JACK (6P) WITH SIN	AKB1272
	CN6003	PIN JACK (6P)	AKB1273
	CN6203	PIN JACK (6P)	AKB1274
	CN6205	PLUG 50-P	AKM1126
	JA6201,JA6206	JACK	AKN1071
	CN6006	L-PLUG (10P)	KM250MA10L
	CN6005	L-PLUG (11P)	KM250MA11L
	CN6007	PLUG 3-P	KM250MA3L
	CN6202	PLUG 3-P	KM250MA3LB
	CN6204	PLUG 3-P	KM250MA3LR

C BNC ASSY

OTHERS

	8001	BNC SOCKET	AKX1046
	CN8002	PLUG 8-P	KM250MA8

D SR ASSY

CAPACITORS

	C5072		CCSQCH121J50
	C5071		CEV101M6R3

RESISTORS

	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN5071		KM250MA3B
	X5071	REMOTE RECEIVER UNIT	GP1U28X

E VIDEO ASSY

• VIDEO BLOCK

SEMICONDUCTORS

	IC5254		CXA1315P
	IC5251		TA1276AN
	IC5256		TC74HC4053AP
	IC5252		TC74HC4538AP
	Q5251-Q5255,Q5260-Q5264,Q5266		2SA933S
	Q5268,Q5270,Q5276,Q5277		2SA933S
	Q5285-Q5287,Q5290,Q5301		2SA933S
	Q5305,Q5306,Q5318,Q5323		2SA933S
	Q5331-Q5333,Q5341		2SA933S
	Q5257,Q5259,Q5265,Q5272-Q5275		2SC1740S
	Q5278-Q5281,Q5288,Q5289,Q5302		2SC1740S
	Q5307-Q5310,Q5312,Q5319,Q5320		2SC1740S
	Q5328-Q5330,Q5340,Q5342		2SC1740S
	Q5267,Q5269,Q5271		2SC2235
	D5251-D5283,D5293-D5297		1SS133
	D5308-D5310,D5314-D5319		1SS133
	D5329-D5338,D5340-D5347		1SS133
	D5349-D5362,D5364		1SS133
	D5298-D5306,D5320-D5328		MTZJ11
	D5284-D5292		S5688G

COILS

	L5251		LAU100J
	L5253		LAU1R0J
	L5252		LAU4R7J

CAPACITORS

	C5259		CCCCH271J50
	C5298,C5299		CCCCH7R0D50
	C5332		CCCSL150J50
	C5296		CCCSL151J50
	C5322,C5334		CCCSL180J50
	C5288		CCCSL220J50
	C5295		CCCSL2R0C50
	C5287		CCCSL560J50
	C5269,C5281,C5282,C5297,C5321		CEAT100M50
	C5336		CEAT100M50
	C5251,C5255,C5312,C5324,C5340		CEAT101M10
	C5309		CEAT101M16
	C5274,C5284		CEAT1R0M50
	C5301,C5331		CEAT220M50
	C5270		CEAT221M10
	C5319		CEAT221M16
	C5272,C5283		CEAT2R2M50
	C5292		CEAT470M16
	C5261		CEAT471M6R3
	C5285		CEAT4R7M50
	C5257,C5258,C5271,C5273		CEATR10M50
	C5286		CEATR47M50
	C5252-C5254,C5256,C5262,C5278		CKCYF103Z50
	C5293,C5294,C5310,C5311		CKCYF103Z50
	C5316-C5318,C5325,C5339,C5341		CKCYF103Z50
	C5263-C5268,C5275-C5277		CQMA104J50
	C5323		CQPA103J2A
	C5300		CQPA223J2A
	C5260		CQPA271J2A

RESISTORS

	R5326,R5331,R5336		RD1/2PM100J
	R5285-R5287		RD1/2PM101J
	R5323,R5328,R5333		RD1/2PM821J
	R5317,R5319,R5321		RD1/2PM8R2J
	R5309		RN1/4PC1002F
	R5475		RN1/4PC1003F
	R5310		RN1/4PC1102F
	R5346,R5587		RN1/4PC1201F
	R5297		RN1/4PC1202F
	R5586		RN1/4PC1300F
	R5303		RN1/4PC1501F
	R5353		RN1/4PC1502F
	R5345		RN1/4PC1602F
	R5298		RN1/4PC2201F
	R5354		RN1/4PC2402F
	R5307		RN1/4PC2700F
	R5344		RN1/4PC2701F
	R5295,R5304,R5347,R5469,R5470		RN1/4PC3301F
	R5349		RN1/4PC3302F
	R5296		RN1/4PC3601F
	R5311,R5484		RN1/4PC4702F
	R5343		RN1/4PC5101F
	R5306,R5308		RN1/4PC5601F
	R5476		RN1/4PC6802F
	R5302,R5305		RN1/4PC7500F
	R5294,R5300		RN1/4PC8200F
	R5348		RN1/4PC9102F
	VR5251,VR5252		ACP1072
	Other Resistors		RD1/4PU□□□J

OTHERS

	CN5255	PLUG 11-P	KM250MA11
	CN5251	PLUG 15-P	KM250MA15
	CN5252	PLUG 3-P	KM250MA3

• VIDEO CONNECTOR BLOCK

SEMICONDUCTORS

	IC5602		PQ30RV11(A)
	IC5601		PQ3RF23
	Q5601,Q5602,Q5606-Q5608,Q5611		2SA933S
	Q5621,Q5622		2SA933S
	Q5603-Q5605,Q5609,Q5613-Q5620		2SC1740S
	D5601,D5603-D5605,D5608-D5620		1SS133

COILS

	L5601-L5603,L5605		ATH-059

CAPACITORS

	C5629-C5631		CCCSL150J50
	C5605		CCCSL330J50
	C5619		CEAT100M50
	C5601,C5602,C5622		CEAT101M10
	C5604		CEAT101M16
	C5610,C5612		CEAT102M16
	C5616,C5617		CEAT102M25
	C5607,C5608,C5623		CEAT222M10

Mark	No.	Description	Part No.
	C5613		CEAT471M16
	C5603,C5624-C5628		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5656,R5657		RD1/2PM152J
	R5661		RN1/4PC1001F
	R5644		RN1/4PC1502F
	R5711		RN1/4PC1801F
	R5643		RN1/4PC2701F
	R5702		RN1/4PC3001F
	R5629		RN1/4PC3301F
	R5627		RN1/4PC3601F
	R5645,R5646		RS2MMF1R0J
	R5663,R5712		RS3LMFR22J
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	KN5601-KN5604	GROUND PLATE	ANK-142
	CN5601,CN5603,CN5604	SOCKET 50-P	AKP1161
	CN5602,CN5605	SOCKET 44-P	AKP1186
	CN5607	11P PLUG	KM200IA11
	CN5609	12P PLUG	KM200IA12
	CN5611	PLUG 4-P	KM250MA4
	CN5610	PLUG 6-P	KM250MA6
	CN5606	8P SOCKET	KP250NA8
	SCREW		PMZ30P100FZK

F RGB SW ASSY

SWITCH

Mark	No.	Description	Part No.
	S5091		ASH1029

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN5092	15PD-SUB SOCKET	AKP1195
	CN5091	8P PLUG	KM250NA8L

G AUDIO ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1202		LA4280-P
	IC1203-IC1205		NJM4558MD
	IC1201		UPC1853CT-01
	Q1206		2SA1162
	Q1201-Q1203,Q1207,Q1210-Q1213		2SC2712
	Q1208,Q1209		2SC4213
	D1205		1SS226

CAPACITORS

Mark	No.	Description	Part No.
	C1239	(470µF/10V)	ACH1334
	C1242,C1243		CCSQCH151J50
	C1245		CEHAT102M50
	C1228,C1229		CEHV2R2M50
	C1204		CEV1R0M50
	C1205,C1214,C1215,C1237		CEV220M16
	C1246,C1247		CEV220M16
	C1234		CEV221M35
	C1202,C1203		CEV2R2M50
	C1235,C1236		CEV330M25
	C1206,C1207		CEV3R3M50
	C1208,C1212,C1263,C1267		CEV470M16
	C1240,C1241		CEVR47M50
	C1218,C1221		CFHS223J16
	C1210,C1211,C1244		CFHSP104J16
	C1201		CFHSP823J16
	C1219		CFHSQ102J50
	C1217		CFHSQ222J50
	C1223		CFHSQ681J50
	C1220,C1222		CFHSQ682J16
	C1216,C1230,C1231,C1233		CFTYA104J50
	C1250,C1256		CKSQYB183K50
	C1264,C1265		CKSRYB102K50
	C1248,C1254		CKSRYB152K50
	C1251,C1257		CKSRYB332K50
	C1249,C1255		CKSRYB682K50
	C1209,C1213,C1226,C1227,C1232		CKSRYF103Z50
	C1262,C1266		CKSRYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R1228,R1229		RD1/4LMF2R2J
	R1291		RD1/4LMF3R9J
	R1245		RS1/2S561J
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	1201	ISOLATION SHEET	AEB1359
	1202	PLATE SPRING	ANG1569
	1201	SCREW	BBZ30P080FCU
	CN1201	11P SOCKET	KP200IA11L
	CN1202	12P SOCKET	KP200IA12L

H SUB VIDEO SERVICE ASSY

• FLESH TONE BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3001		AN5344FBP
	IC3002		TK15420M
	Q3002,Q3003,Q3018		2SA1162
	Q3001,Q3008-Q3013,Q3015		2SC2712
	Q3019-Q3027,Q3029-Q3040		2SC2712
	D3001		1SS184

COILS AND FILTERS

Mark	No.	Description	Part No.
	L3016		ATH1108
	DL3002		ATN1040
	L3009,L3012,L3014		LFA1R2J
	L3001,L3003,L3005,L3007,L3010		LFA5R6J
	L3008,L3011,L3013		LFEA2R2J
	L3002,L3004,L3006		LFEA4R7J

CAPACITORS

Mark	No.	Description	Part No.
	C3049,C3050		CCSRCH100D50
	C3019,C3042,C3052,C3057,C3062		CCSRCH101J50
	C3048		CCSRCH180J50
	C3053,C3058,C3063		CCSRCH220J50
	C3034,C3039,C3043,C3046		CCSRCH330J50
	C3033,C3038,C3045		CCSRCH331J50
	C3032,C3037,C3044		CCSRCH470J50
	C3051,C3056,C3061		CCSRCH560J50

Mark	No.	Description	Part No.
	C3024		CEANP2R2M50
	C3007,C3008		CEANPR33M50
	C3020		CEAT101M16
	C3014		CEAT1R0M50
	C3009,C3017		CEAT2R2M50
	C3005,C3006,C3028,C3040,C3054		CEAT470M16
	C3059		CEAT470M16
	C3001,C3002		CEATR33M50
	C3015		CEATR47M50
	C3010,C3011		CKSQYF105Z16
	C3022		CKSRYB102K50
	C3013,C3016		CKSRYF103Z50
	C3003,C3004,C3021,C3025,C3027		CKSRYF104Z16
	C3035,C3036,C3041,C3047,C3055		CKSRYF104Z16
	C3060,C3066		CKSRYF104Z16
	C3012		CQMBA103J50

RESISTORS

Mark	No.	Description	Part No.
	R3150		RS1/16S1001F
	R3052		RS1/16S1002F
	R3118		RS1/16S1200F
	R3083,R3160,R3172		RS1/16S1201F
	R3117		RS1/16S1500F
	R3068,R3119,R3120,R3125,R3131		RS1/16S1501F
	R3142,R3159,R3171		RS1/16S1501F
	R3057		RS1/16S1802F
	R3161,R3173		RS1/16S2000F
	R3143		RS1/16S3300F
	R3063		RS1/16S3600F
	R3132		RS1/16S5100F
	R3121		RS1/16S6800F
	VR3003	(1kΩ)	ACP1089
	VR3004	(4.7kΩ)	ACP1091
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN3002	PLUG 50-P	AKM1126
	CN3001	PLUG 44-P	AKM1155

• I/P BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3201		CXA3106Q
	IC3203		CXD2303AQ
	IC3801		HD64F3067RF20
	IC3601,IC3604		MS82V16520-8GA
	IC3401		PE5066A
	IC3501		PE5067A
	IC3602		SDA9280
	IC3206		TA78M05F
	IC3205		TC74HC126AF
	IC3202		TC74HC4053AF
	IC3208		TC74HC4538AF
	IC3207		TC74HCT04AF
	IC3204		TC74LCX541FT
	IC3802		TC7SET08FU
	Q3204-Q3209,Q3601-Q3603,Q3607		2SA1162
	Q3609,Q3615		2SA1162
	Q3201-Q3203,Q3213,Q3604-Q3606		2SC2712
	Q3608,Q3610-Q3614		2SC2712
	D3201		1SS352

Mark	No.	Description	Part No.

COILS AND FILTERS

Mark	No.	Description	Part No.
	F3202,F3203,F3401,F3801		ATF1194
	L3201-L3207		LCTA8R2J2520
	L3601,L3603,L3606		LFA1R2J
	L3602,L3604,L3607		LFEA2R2J
	L3208		QTL1013

CAPACITORS

Mark	No.	Description	Part No.
	C3205,C3207	(0.47μF/16V)	ACE1130
	C3653		CCSRCH100D50
	C3204,C3254,C3256-C3258,C3624		CCSRCH101J50
	C3650,C3660		CCSRCH101J50
	C3252,C3260		CCSRCH102J50
	C3654,C3656		CCSRCH180J50
	C3236,C3237,C3253,C3416,C3520		CCSRCH220J50
	C3623,C3649,C3659,C3817		CCSRCH220J50
	C3642,C3651,C3661		CCSRCH560J50
	C3814,C3815		CCSRCH7R0D50
	C3662,C3663		CEAT220M50
	C3224,C3233,C3247,C3402,C3417		CEAT221M6R3
	C3518,C3601,C3617,C3801		CEAT221M6R3
	C3219,C3220,C3239,C3648,C3664		CEAT470M16
	C3646		CKSRYB152K50
	C3202		CKSRYB222K50
	C3201,C3210-C3218,C3221-C3223		CKSRYF104Z16
	C3225-C3232,C3234,C3238,C3240		CKSRYF104Z16
	C3242,C3243,C3246,C3248-C3251		CKSRYF104Z16
	C3255,C3259,C3262,C3276		CKSRYF104Z16
	C3403-C3415,C3502-C3505		CKSRYF104Z16
	C3507-C3517,C3600,C3602-C3614		CKSRYF104Z16
	C3616,C3618-C3622,C3625-C3636		CKSRYF104Z16
	C3638-C3641,C3643-C3645,C3647		CKSRYF104Z16
	C3655,C3658,C3803-C3805,C3816		CKSRYF104Z16
	C3818		CKSRYF104Z16
	C3206,C3261		CKSRYF223Z50

RESISTORS

Mark	No.	Description	Part No.
	R3521,R3522,R3801,R3808	(47Ω)	DCN1090
	R3821,R3826,R3831	(47Ω)	DCN1090
	R3809,R3810	(4.7kΩ)	DCN1100
	R3291		RS1/16S1001F
	R3607		RS1/16S1002F
	R3633		RS1/16S1302F
	R3606,R3635,R3637,R3638		RS1/16S1500F
	R3659,R3673,R3679,R3685,R3692		RS1/16S1501F
	R3697		RS1/16S1501F
	R3207,R3290		RS1/16S1601F
	R3281		RS1/16S2401F
	R3206		RS1/16S3301F
	R3644		RS1/16S6801F
	R3691		RS1/16S8200F
	R3280		RS1/16S8201F
	R3672,R3684		RS1/16S9100F
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	X3801	CERAMIC RESONATOR (20.0MHz)	ASS1147
	CN3802	PLUG 7-P	KM250MA7

• CLAMP BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4052		M52036SP
	IC4051		TC74HC4053AF
	IC4053,IC4055		TC74HC4066AF
	IC4054,IC4056		TC74HC4538AF
	Q4057,Q4058,Q4062-Q4064		2SA1162
	Q4071-Q4072,Q4078,Q4081,Q4087		2SA1162
	Q4089-Q4091,Q4096		2SA1162
	Q4051-Q4056,Q4059-Q4061		2SC2712
	Q4065-Q4070,Q4075-Q4077		2SC2712
	Q4079,Q4080,Q4083-Q4086,Q4088		2SC2712
	Q4092-Q4095,Q4097,Q4098		2SC2712
	Q4102,Q4103		2SC2712
	Q4082		2SK209
	D4056,D4057,D4059,D4060		1SS226
	D4052-D4054,D4058		1SS352

CAPACITORS

	C4062,C4064,C4098		CCSQCH561J50
	C4082		CCSRCH101J50
	C4067		CEAT100M50
	C4099		CEAT1R0M50
	C4054,C4056,C4057,C4059,C4065		CEAT470M16
	C4068,C4075,C4078,C4080,C4089		CEAT470M16
	C4092,C4093		CEAT470M16
	C4081,C4094-C4097		CEAT4R7M50
	C4063		CEATR10M50
	C4104		CFHSQ331J50
	C4103		CFHSQ332J16
	C4087,C4102		CFHSQ821J50
	C4060,C4086		CKSRYB472K50
	C4058,C4061,C4066,C4069,C4074		CKSRYF104Z16
	C4077,C4079,C4083,C4084,C4088		CKSRYF104Z16
	C4091		CKSRYF104Z16

RESISTORS

	R4193		RS1/16S1001F
	R4159		RS1/16S1002F
	R4147		RS1/16S1801F
	R4219		RS1/16S2001F
	R4161		RS1/16S2402F
	R4148,R4167		RS1/16S3902F
	R4162		RS1/16S4702F
	R4175		RS1/16S6802F
	R4166		RS1/16S6200F
	VR4051 (2.2kΩ)		ACP1090
	VR4052 (47kΩ)		ACP1094
	Other Resistors		RS1/16S□□□J

• SYNC BLOCK

SEMICONDUCTORS

	IC4801		HG62G010R29FB
	IC4802		TC74HC14AF
	IC4803		TC74HC4040AF
	IC4804		TLC2932IPW
	Q4801		2SC2712
	D4801,D4802		1SS352

COILS

Mark	No.	Description	Part No.
	L4801,L4802		QTL1013

CAPACITORS

	C4814		CCSRCH221J50
	C4804,C4808		CEAT101M16
	C4807,C4813		CKSRYB102K50
	C4801-C4803,C4805,C4806		CKSRYF104Z16
	C4809-C4812,C4815		CKSRYF104Z16

RESISTORS

	Other Resistors		RS1/16S□□□J

• SHARPNESS BLOCK

SEMICONDUCTORS

	IC4301		AN5395FBP
	IC4304		CXA1315M
	Q4301,Q4302,Q4306,Q4307,Q4319		2SA1162
	Q4328,Q4330		2SA1162
	Q4303-Q4305,Q4308-Q4311,Q4321		2SC2712
	Q4323,Q4325-Q4327,Q4331,Q4332		2SC2712

COILS AND FILTERS

	F4302		ATF1194
	DL4303		ATN1055
	L4310,L4312		LFA1R5J
	L4302,L4311		LFA5R6J
	L4301		LFA820J

CAPACITORS

	C4365-C4367		CCSRCH101J50
	C4369		CCSRCH270J50
	C4310		CCSRCH470J50
	C4302,C4347		CCSRCH560J50
	C4315		CEAT100M50
	C4348-C4350		CEAT101M16
	C4377		CEAT1R0M50
	C4345		CEAT470M16
	C4355-C4358		CKSQYB224K16
	C4323,C4324		CKSRYB102K50
	C4304-C4309,C4312,C4314,C4316		CKSRYF103Z50
	C4320,C4322,C4343,C4370		CKSRYF103Z50
	C4317,C4321,C4340,C4344,C4346		CKSRYF104Z16
	C4303,C4311,C4319,C4359		CQMBA103J50

RESISTORS

	R4444		DCN1092
	R4303		RS1/16S2001F
	R4322,R4514		RS1/16S3301F
	R4307		RS1/16S6800F
	Other Resistors		RS1/16S□□□J

• SUB UCOM BLOCK

SEMICONDUCTORS

	IC2204		PD0264AM
	IC2201		PD5718A
	IC2203		PST9146N
	IC2205		TC74HC157AF
	Q2202,Q2204,Q2205,Q2207,Q2208		2SA1162
	Q2201,Q2203,Q2206,Q2209,Q2210		2SC2712
	D2203,D2206,D2210,D2212		1SS226

Mark	No.	Description	Part No.
	D2215-D2234		1SS226
	D2204,D2205		RD6.8MB

COILS AND FILTERS

Mark	No.	Description	Part No.
	F2201		ATF1194
	L2201		LFA5R6J

CAPACITORS

Mark	No.	Description	Part No.
	C2206		CCSQCH561J50
	C2211		CCSRCH120J50
	C2205,C2241		CCSRCH221J50
	C2210		CCSRCH390J50
	C2207,C2208		CCSRCH5R0C50
	C2222,C2226,C2237,C2239		CEAT101M16
	C2234		CEAT1R0M50
	C2238		CEATR47M50
	C2224,C2228		CKSRYB102K50
	C2223		CKSRYF103Z50
	C2209,C2220,C2221,C2225,C2227		CKSRYF104Z16
	C2236		CKSRYF104Z16

RESISTORS

Mark	No.	Description	Part No.
	R2385	(22kΩ)	ACN7073
	R2229,R2230,R2242,R2269,R2275	(100Ω)	DCN1092
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN2202	PLUG 6-P	KM250MA6L
	CN2204	52P IC SOCKET	AKH1023
	X2202	CERALOCK	ASS1156
	X2203	CERAMIC RESONATOR (26MHz)	ASS1157

• EQ BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4001		AD8057ART
	Q4003,Q4005		2SA1162
	Q4001,Q4007		2SA1669
	Q4002,Q4004,Q4006,Q4008		2SC2712

CAPACITORS

Mark	No.	Description	Part No.
	C4002-C4005		CEAT470M16
	C4001		CKSRYF104Z16

RESISTORS

Mark	No.	Description	Part No.
	R4001,R4022		RS1/16S1001F
	R4003		RS1/16S1201F
	R4008,R4012		RS1/16S1202F
	R4004,R4010		RS1/16S2001F
	R4021		RS1/16S2002F
	R4002		RS1/16S2202F
	R4009		RS1/16S4701F
	Other Resistors		RS1/16S□□□J

I DIGITAL CONV. ASSY

• DIGITAL CONVER BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1410		24LC128(I)P
	IC1401		CM0006CF
	IC1420		M51952BML
	IC1411,IC1419		NJM4558MD
	IC1409		TC74HC14AF
	IC1421		TC74HC4053AF
	IC1402		TLC2932IPW
	IC1412-IC1418		UPC4570G2
	IC1403-IC1408		UPD6376GS
	Q1401		2SC2712
	Q1403		2SJ461
	D1409		1SS181
	D1401-D1407		1SS226

COILS AND FILTERS

Mark	No.	Description	Part No.
	F1401-F1403		ATF1189
	L1402		ATH1046
	L1401,L1403,L1405,L1407,L1409		ATH1097
	L1411,L1413		ATH1097
	L1415-L1420,L1424,L1425		QTL1013
	L1428,L1429,L1432,L1433		QTL1013
	L1436,L1437		QTL1013

CAPACITORS

Mark	No.	Description	Part No.
	C1401,C1405,C1421,C1425,C1426		CCSQCH100D50
	C1430,C1431,C1435,C1436		CCSQCH100D50
	C1440,C1441,C1445,C1446,C1450		CCSQCH100D50
	C1540,C1542,C1544,C1546		CCSQCH101J50
	C1434		CCSQCH181J50
	C1451		CCSQCH471J50
	C1539		CCSQSL220J50
	C1551		CEAT102M6R3
	C1415		CEV2R2M50
	C1406,C1408,C1411,C1413,C1429		CEV470M6R3
	C1458,C1461,C1467,C1470,C1473		CEV470M6R3
	C1475,C1483,C1485,C1497,C1498		CEV470M6R3
	C1500,C1505,C1506,C1508		CEV470M6R3
	C1510,C1511,C1515,C1516,C1518		CEV470M6R3
	C1520,C1521,C1525,C1526,C1530		CEV470M6R3
	C1532,C1535,C1536,C1538,C1541		CEV470M6R3
	C1543,C1545,C1548		CEV470M6R3
	C1453		CEVNP4R7M16
	C1456		CEVR22M50
	C1454		CFHSQ103J16
	C1402,C1422,C1427,C1432,C1437		CFHSQ471J50
	C1442,C1447		CFHSQ471J50
	C1403,C1423,C1428,C1433,C1438		CFHSQ472J16
	C1443,C1448		CFHSQ472J16
	C1452		CFHSQ821J50
	C1404,C1407,C1409,C1410,C1412		CKSRYF103Z50
	C1414,C1416-C1418,C1420,C1424		CKSRYF103Z50
	C1455,C1457,C1459,C1460,C1463		CKSRYF103Z50
	C1465,C1466,C1468,C1469		CKSRYF103Z50
	C1471,C1472,C1474,C1476		CKSRYF103Z50
	C1478,C1479,C1481,C1482,C1484		CKSRYF103Z50
	C1486,C1488,C1489,C1491,C1492		CKSRYF103Z50
	C1494,C1496,C1499,C1501,C1502		CKSRYF103Z50

Mark	No.	Description	Part No.
	C1504,C1507,C1509,C1512,C1514		CKSRYF103Z50
	C1517,C1519,C1522,C1524		CKSRYF103Z50
	C1527,C1528,C1534,C1537		CKSRYF103Z50
	C1549,C1550		CKSRYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R1404,R1412,R1416,R1419,R1424		RS1/16S1002F
	R1428,R1431,R1436,R1440		RS1/16S1002F
	R1454-R1456,R1519,R1521,R1523		RS1/16S1002F
	R1525,R1527,R1529		RS1/16S1002F
	R1520,R1522,R1524,R1526,R1528		RS1/16S2402F
	R1530		RS1/16S2402F
	R1401,R1514-R1518		RS1/16S4302F
	Other Resistors		RS1/16S□□□J

• U-CON BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1652		PD5564
	IC1656		24LC08B(I)P
	IC1655		MC14066BF
	IC1653		PST9146N
	IC1654		TC74HC157AF
	IC1651		TC74HC4538AF
	Q1651		2SC2712
	Q1652		2SJ461
	D1677		1SS184
	D1651,D1654-D1657,D1661-D1665		1SS226
	D1667-D1670,D1673-D1676		1SS226
	D1652,D1666		RD6.8MB

COIL

Mark	No.	Description	Part No.
	L1651		ATC1037

CAPACITORS

Mark	No.	Description	Part No.
	C1659,C1660		CCSQCH150J50
	C1671		CCSQCH221J50
	C1655		CEV101M6R3
	C1672		CEV1R0M50
	C1652,C1661,C1665,C1669		CEV470M6R3
	C1654,C1673		CFHSQ561J50
	C1658,C1663,C1664		CKSRYB102K50
	C1667		CKSRYB561K50
	C1651,C1653,C1656,C1657,C1662		CKSRYF103Z50
	C1666,C1670,C1680		CKSRYF103Z50
	C1668		CKSRYF104Z16

RESISTORS

Mark	No.	Description	Part No.
	R1731		RD1/4LMF2R7J
	R1737		RD1/4PU472J
	R1655		RS1/16S3901F
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	X1651	CERAMIC RESONATOR	ASS1015
	202,203	CABLE HOLDER (13P)	51063-1305
	CN1655	CONNECTOR 12-P	B12B-PH-SM3
	CN1654	CONNECTOR 8-P	B8B-PH-SM3
	CN1651	PLUG 10-P	KM250MA10
	CN1652	PLUG 6-P	KM250MA6
	CN1653	PLUG 7-P	KM250MA7

J CONNECTOR ASSY

OTHERS

Mark	No.	Description	Part No.
	1801,1802	CABLE HOLDER	51063-1305
	J1801,J1802	JUMPER WIRE	D15A13-100-2651
	CN1803	10P SOCKET	KP200IA10L
	CN1804	16P SOCKET	KP200IA16L

K CONV.AMP ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1002		CA0007AD
	IC1004,IC1005		M5220P
	IC1003		PA0053B
	IC901,IC903		STK392-110
	IC1001		TC4052BP
	Q902,Q905,Q908,Q909,Q917		2SA933S
	Q914		2SB950A
	Q901,Q903,Q906,Q907		2SC1740S
	Q910-Q912,Q915,Q916		2SC1740S
	Q904,Q918		2SC2878
	Q913		2SD1276A
	D1014,D1015,D907-D911		1SS133
	D921,D922,D924		1SS133
	D923		BR3371XJ30A
	D1001-D1013		RD12ESB
	D901-D906,D915-D920		S5688G

COILS

Mark	No.	Description	Part No.
	L901,L902		ATH1108
	L903,L904		ATX1008
	L1001		LAU220J
	L1002		LAU5R6J

CAPACITORS

Mark	No.	Description	Part No.
	C1001,C1022,C1023,C1025,C1041		CCCSL101J50
	C909,C911,C912		CCCSL151J50
	C917-C919,C934-C936		CCCSL220J50
	C905		CEANP101M25
	C953		CEAT100M50
	C1013-C1017,C1019,C1029,C1030		CEAT101M10
	C1035		CEAT101M10
	C906		CEAT101M25
	C1039		CEAT220M50
	C1036,C1037		CEAT330M16
	C1038		CEAT470M10
	C1004,C945		CEAT470M25
	C921,C922,C938,C939		CEHAT102M25
	C920,C923,C937		CEHAT102M35
	C952		CEHAT221M25
	C908		CEHAT221M35
	C949		CEHAT332M25
	C948		CEHAT332M35
	C940		CEHAT471M35
	C1040		CFTYA184J50
	C1028,C1034		CFTYA224J50
	C910,C913,C950		CKCYB102K50
	C924-C926,C941-C943		CKCYB331K50
	C914-C916,C931-C933		CKCYB681K50
	C1002,C1003,C1005-C1012,C1018		CKCYF103Z50

Mark	No.	Description	Part No.
	C1020,C1021,C1026,C1027		CKCYF103Z50
	C1031-C1033,C901-C904,C907		CKCYF103Z50
	C927-C930,C944,C946,C947		CKCYF103Z50
	C951,C954-C957		CKCYF103Z50

RESISTORS

	R933,R955		RD1/2MMF470J
	R934,R940-R942,R956		RS1MMF470J
	R922		RS1MMF562J
	R935,R936,R957,R958		RS1MMFR47J
	R927-R929,R978-R980		RS2MMF121J
	R985		RS2MMF1R2J
	R960,R961		RS2MMF1R5J
	R930,R931,R981-R983		RS2MMF221J
	R976,R977		RS2MMF2R2J
	R914,R988		RS2MMFR47J
	R937,R938,R959		RS3LMF1R5J
	R932		RS3LMF221J
	R998		RS3LMFR68J
	R939		RS3LMFR82J
	Other Resistors		RD1/4PU□□□J

OTHERS

	CN905	PLUG 10-P	KM200IA10
	CN904	PLUG 16-P	KM200IA16
	CN901	PLUG 6-P	KM250MA6
	CN903	PLUG 6-P	KM250MA6B
	CN902	PLUG 6-P	KM250MA6R
	903	SCREW	BBZ30P080FCU
	901	SCREW	PMB30P160FZK
	902	SCREW	PMZ30P100FZK

L DEFLECTION SERVICE ASSY

• H. DEF BLOCK

SEMICONDUCTORS

	IC303		NJM4558DXP
⚠	IC301		TA8638N
	Q315,Q316		2SA1145
	Q302,Q306,Q311,Q313,Q319		2SA933S
	Q321,Q322,Q326		2SA933S
	Q301,Q304,Q305,Q307,Q310		2SC1740S
	Q312,Q318,Q320,Q327		2SC1740S
	Q314,Q317		2SC2705
	Q308		2SC3332
⚠	Q309		2SC5043
	Q324		2SC5197
	D302,D304,D345		10DF2
	D305-D312,D314,D322		1SS133
	D321		BR3371XJ30A
	D328,D329,D343		ERA22-02
	D303		ERB93-02L3
⚠	D316,D317		ERD07-15
	D315,D327		RD12ESB
	D344		RD5.1ESB1
	D313		S5688G

COILS AND TRANSFORMERS

	L307,L308		ATH-059
⚠	T302		ATK1144
⚠	T301		ATK1145
	L303-L306,L309		ATX1008
	L310		LTA152J

Mark	No.	Description	Part No.

CAPACITORS

⚠	C325	(100pF/2kV)	ACG-032
⚠	C324	(1μF/160V)	ACH-372
	C331,C335,C358		CCCSL101J50
	C336		CCCSL101K2H
	C326,C342		CCCSL470J50
	C304		CEANP2R2M50
	C334		CEHAQ1R0M2C
	C353		CEHAT100M2D
	C308,C337,C349,C355		CEHAT101M25
	C330		CEHAT101M50
	C359		CEHAT102M35
	C357		CEHAT1R0M50
	C328		CEHAT221M25
	C332		CEHAT330M35
	C313		CEHAT331M16
	C351,C352,C360,C361		CEHAT471M16
	C309,C341,C343		CEHAT4R7M50
⚠	C320		CFPAB332H3C
⚠	C321		CFPAB472H3C
⚠	C319,C322		CFPMAB334J2G
	C323		CFTLA105J50
	C312		CFTLA224J50
	C329		CFTLA683J50
	C311		CKCYB102K50
	C303		CKCYB103K50
	C327		CKCYB561K50
	C315-C318,C333,C338-C340		CKCYF103Z50
	C350,C356		CKCYF103Z50
	C307		CQMA471J50
	C302		CQMA561J50
	C305		CQMA682J50
	C301		CQPA102J2A
	C314		CQPA333J2A
	C306		CQPA821J2A

RESISTORS

	R365		RD1/2PM153J
	R366		RD1/2PM223J
⚠	R395		RD1/4LMF100J
	R328		RN1/4PC1002F
	R419		RN1/4PC1202F
	R318		RN1/4PC1203F
	R302		RN1/4PC1303F
	R372		RN1/4PC1503F
	R327		RN1/4PC2702F
	R373,R421		RN1/4PC6801F
	R301		RN1/4PC8201F
	R338		RS1MMF100J
	R398		RS1MMF1R5J
	R336,R337,R339		RS2MMF1R0J
	R333		RS2MMF222J
	R358,R359		RS2MMF2R2J
	R355		RS2MMF390J
⚠	R392		RT5PZ561K
	VR301		VRTHS6VS222
	VR302		VRTHS6VS473
	Other Resistors		RD1/4PU□□□J

OTHERS

⚠	CN301-CN303	PLUG3-P	AKM1055
	CN304	PLUG 12-P	KM250MA12

Mark	No.	Description	Part No.
	CN305	PLUG 13-P	KM250MA13
	CN309	PLUG 4-P	KM250MA4
	CN307	PLUG 5-P	KM250MA5
	CN308	PLUG 6-P	KM250MA6
	CN306	PLUG 6-P	KM250MA6R
	301	ISOLATION SHEET	AEB1358
	305	SCREW	BBZ30P080FCU
	304	SCREW	PMB30P160FZK

• HV BLOCK

SEMICONDUCTORS

	IC601		NJM4558DXP
	Q604,Q605		2SA1145
	Q607,Q608		2SA933S
×	Q751		2SA933S
	Q602,Q614,Q752		2SC1740S
	Q603,Q606		2SC2705
	Q601		2SC3332
	Q609		2SC3468
⚠	Q612		2SC5143
	Q613		2SC5197
	Q610		2SD1276A
⚠	Q753,Q754		2SC4686A
	D601		10DF2
	D603,D608,D609,D611		1SS133
	D614,D615,D621,D625		1SS133
⚠	D622,D623		2NU41
	D610		ERA22-02
	D613		ERB06-15
	D602		ERB93-02L3
	D604-D607		RD12ESB
	D624		RD5.1ESB1
	D612		RD7.5ESB2
	D627		RD9.1ESB1
	D751-D757		1SS133

COILS AND FILTERS

⚠ ×	T601		ATK1136
⚠	T602		ATK1144
	L601-L603		ATX1008
	L605		LTA152J
	SG751		AEX1024

CAPACITORS

	C636 (1μF/160V)		ACH-372
⚠	C604 (10μF/160V)		ACH1117
	C606		CCCSL101J50
	C612		CCCSL101K2H
	C616		CEHAT100M2D
	C619,C621		CEHAT100M50
	C608		CEHAT101M25
	C605		CEHAT101M50
	C633		CEHAT1R0M50
	C620		CEHAT220M2D
	C635		CEHAT220M50
	C618		CEHAT220M63
	C624,C625		CEHAT221M25
	C613		CEHAT330M35
	C623		CEHAT470M25
	C634		CEHAT4R7M2E
⚠	C601,C602		CFPAB182H3C
	C603		CFTLA105J50

Mark	No.	Description	Part No.
	C607		CKCYB222K50
	C628		CKCYB332K2H
	C611		CKCYB561K50
	C627		CKCYB682K50
	C637		CKCYE103P2H
	C615		CKCYE222P2H
	C609,C610,C614,C617,C622		CKCYF103Z50
	C626,C629		CKCYF103Z50
	C754,C755 (4700pF/2kV)		ACG1028
	C752		CEHAT100M50
	C751		CEHAT470M25
	C753		CKCYF103Z50

RESISTORS

	R661 (27Ω)		ACN1136
	R631		RD1/2PM122J
	R648		RD1/2PM154J
	R618,R649		RD1/2PM223J
	R628		RD1/2PM333J
	R617		RD1/2PM563J
⚠	R634		RD1/4LMF100J
	R635		RD1/4MUF100J
⚠	R629,R630		RN1/2PC3902F
	R646,R650		RN1/4PC1003F
×	R645		RN1/4PC1003F
×	R639		RN1/4PC1202F
×	R640		RN1/4PC6801F
×	R644		RN1/4PC7502F
	R647		RN1/4PC8201F
	R604		RS1MMF100
	R658,R659		RS2MMF101J
	R602,R603		RS2MMF1R0J
	R621,R622		RS2MMF1R8J
	R601		RS2MMF222J
	R660		RS2MMFR56J
×	VR601		VRTHS6VS102
	VR603		VRTHS6VS223
×	VR602		VRTHS6VS473
	R769		ACN1011
	R770,R772-R776		RD1/2PM114J
	R771,R777-R781		RD1/2PM184J
	R757-R768		RD1/2PM224J
	R753		RN1/4PC2202F
	R752		RN1/4PC3302F
	R783		RN1/4PC3601F
	R755		RN1/4PC4701F
	R754		RN1/4PC56R0F
	R782		RN1/4PC7501F
×	R637,R638		RD1/4PU102J
×	R642		RD1/4PU821J
×	R643		RD1/4PU822J
	Other Resistors		RD1/4PU☐☐☐J

OTHERS

	J602	H.V. RETURN WIRE	ADX2486
	J601	1P LEAD WIRE	ADX2492
	J603	HV CABLE (400)	ADY1043
	CN751	PLUG 3-P	AKM1055
	601	ISOLATION SHEET	AEB1358
	602	NYLON BINDER	AEC-093
	607	SCREW	BBZ30P080FCU
	605	SCREW	PMB30P160FZK

Mark	No.	Description	Part No.
	604,606	SCREW	PMZ30P100FZK
	608	SCREW	VPZ40P120FMC
	752	SCREW	PMZ30P100FZK

• VM BLOCK

SEMICONDUCTORS

	Q804,Q806		2SA1145
	Q808		2SA1837
	Q801		2SA933S
	Q802		2SC1740S
	Q803,Q805,Q807		2SC2705
	Q809		2SC4793
	D801,D802		MTZJ39
	D803-D806		S5688G

CAPACITORS

	C802		CCCSL101J50
	C815		CCCSL221J50
	C806,C807		CEAT101M25
	C817		CEAT470M50
	C809,C818		CEHAT220M2D
	C810		CEHAT3R3M2C
	C814,C819		CKCYE103P2H
	C801,C803,C808		CKCYF103Z50
	C804,C805,C816		CKCYF473Z50
	C813		CQMA104K2E
	C811,C812		CQMA472K2E

RESISTORS

	R826		RD1/2MMF100J
	R815		RD1/2MMF332J
	R813,R814		RD1/2PM270J
	R801		RD1/2PM272J
	R823,R824		RD1/2PM2R2J
	R827,R828		RD1/4MUF560J
	R809,R810		RS1MMF472J
	R819-R821		RS2MMF271J
	R822,R825,R831		RS3LMF471J
	Other Resistors		RD1/4PU☐☐☐J

OTHERS

	802	SCREW	PMZ30P100FZK
	CN801	PLUG 9-P	KM250MA9

M R CRT DRIVE ASSY

SEMICONDUCTORS

	IC5101		TDA6120QN2
	Q5101		2SC1740S
	D5108		MTZJ3.9B
	D5107		MTZJ5.6A
	D5101-D5106		S5688G

COILS AND FILTERS

	SG5101,SG5102		AEX1024
	L5102		LAU2R2J
	L5101		LAU3R3J
	L5103		LTA562J

Mark	No.	Description	Part No.

CAPACITORS

	C5108 (1000pF)		ACG1001
	C5107,C5114 (47µF/250V)		ACH1343
	C5103		CCCSL120J50
	C5101		CCCSL390J50
	C5102		CCCSL7R0D50
	C5110		CEAT101M25
	C5109		CEAT472M16
	C5111,C5113		CKCYE103P2H
	C5104,C5106		CKCYF103Z50

RESISTORS

	R5115 (47Ω)		ACN1129
	R5116 (220Ω)		ACN1131
	R5118 (470Ω)		ACN1133
	R5117		RD1/2LMF100J
	R5101		RS1MMF6R8J
	R5112-R5114		RS3LMF822J
	VR5101		VRTHS6VS222
	Other Resistors		RD1/4PU☐☐☐J

OTHERS

	CN5104	CRT SOCKET	AKG1006
	5107,5108	SCREW	BBZ30P080FCU
	5103-5106	SCREW	BPZ30P100FZK
	CN5105	PLUG 3-P	KM250MA3
	CN5106	PLUG 3-P	KM250MA3R
	CN5102	PLUG 5-P	KM250MA5B
	CN5101	PLUG 5-P	KM250MA5R
	5101,5102	SCREW	PMB30P160FZK

N G CRT DRIVE ASSY

SEMICONDUCTORS

	IC5151		TDA6120QN2
	Q5151		2SC1740S
	D5158		MTZJ3.9B
	D5157		MTZJ5.6A
	D5151-D5156		S5688G

COILS AND FILTERS

	SG5151,SG5152		AEX1024
	L5152		LAU2R2J
	L5151		LAU3R3J
	L5153		LTA562J

CAPACITORS

	C5158 (1000pF)		ACG1001
	C5157,C5164 (47µF/250V)		ACH1343
	C5153		CCCSL120J50
	C5151		CCCSL560J50
	C5152		CCCSL7R0D50
	C5160		CEAT101M25
	C5159		CEAT472M16
	C5161,C5163		CKCYE103P2H
	C5154,C5156,C5165		CKCYF103Z50

RESISTORS

	R5164 (47Ω)		ACN1129
	R5165 (220Ω)		ACN1131
	R5168 (470Ω)		ACN1133
	R5167		RD1/2LMF100J
	R5151		RS1MMF6R8J

Mark	No.	Description	Part No.
	R5161-R5163		RS3LMF822J
	VR5151		VRTHS6VS222
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	J5152	LEAD WITH HOUSING	ADX2493
	CN5154	CRT SOCKET	AKG1006
	5157,5158	SCREW	BBZ30P080FCU
	5153-5156	SCREW	BPZ30P100FZK
	CN5156	PLUG 3-P	KM250MA3
	CN5157	PLUG 3-P	KM250MA3B
	CN5151	PLUG 5-P	KM250MA5
	5151,5152	SCREW	PMB30P160FZK

O B CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC5201		TDA6120QN2
	Q5201		2SC1740S
	D5208		MTZJ3.9B
	D5207		MTZJ5.6A
	D5201-D5206		S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	SG5201,SG5202		AEX1024
	L5202		LAU1R0J
	L5201		LAU4R7J
	L5203		LTA562J

CAPACITORS

Mark	No.	Description	Part No.
	C5208	(1000pF)	ACG1001
	C5207,C5214	(47µF/250V)	ACH1343
	C5201-C5203		CCCSL220J50
	C5210		CEAT101M25
	C5209		CEAT472M16
	C5211,C5213		CKCYE103P2H
	C5204,C5206		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5214	(47Ω)	ACN1129
	R5215	(220Ω)	ACN1131
	R5218	(470Ω)	ACN1133
	R5217		RD1/2LMF100J
	R5201		RS1MMF6R8J
	R5211-R5213		RS3LMF822J
	VR5201		VRTHS6VS222
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	J5203	LEAD WITH HOUSING	ADX2493
	CN5204	CRT SOCKET	AKG1006
	5207,5208	SCREW	BBZ30P080FCU
	5203-5206	SCREW	BPZ30P100FZK
	CN5206	PLUG 3-P	KM250MA3
	CN5207	PLUG 3-P	KM250MA3B
	CN5201	PLUG 5-P	KM250MA5B
	5201,5202	SCREW	PMB30P160FZK

P POWER SUPPLY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC101		AN8029
	IC102		ON3171
	IC103		PC817CD
	IC204		MC33167TV
	IC203		NJM79M05FA
	IC201,IC202		PQ30RV11(A)
	IC901		MIP0253SP
	IC902,IC903		ON3171
⚠	Q101		2SK1544
	Q206,Q207,Q210		2SA933S
	Q205,Q901-Q905,Q907		2SC1740S
	Q202		2SC2705
	Q201		2SD1276A
	Q906		2SA933S
	D102		10DF2
	D101		D15XB60H
	D105,D110		MA723
	D103		MTZJ24
	D104		MTZJ27B
	D111		RD12ESB
	D106-D109		RD5.1ESB
	D206,D207		10DF2
	D210-D213,D215-D219		1SS133
	D223,D224,D226,D227		1SS133
	D229,D230		1SS133
	D908,D910-D914		1SS133
	D201		D3L60
	D228		HZS4BLL
	D209		HZS6A1L
	D222		HZS6B1L
	D214		HZS6C2L
	D208		SF5SC3L
	D204		YG802C06R
	D202,D203,D205		YG911S2R
	D915		BR3371XJ30A
	D906,D907		D1NS4
	D905		ERB06-15
	D909		HZS2BLL
	D901		S1WB(A)60B

RELAYS

Mark	No.	Description	Part No.
	RY101,RY102		ASR1049

COILS AND TRANSFORMERS

Mark	No.	Description	Part No.
⚠	L103		ATF1183
	L101,L102		ATX1021
	L902		ATX1008
	L901		LAU2R2J
	L218		ATH-059
	L215,L216		ATH1046
	L213		ATH1102
	L219-L222		ATH1108
⚠	T101		ATK1135
⚠	T901		ATK1133

CAPACITORS

Mark	No.	Description	Part No.
	C113,C114	(4700pF/250V)	ACE1105
⚠	C115,C121	(0.22µF/250V)	ACE1125
	C116,C117	(0.01µF/250V)	ACG-501

Mark	No.	Description	Part No.
	C125	(3300pF/2kV))	ACG1008
	C111,C112,C126	(4700pF/2kV)	ACG1028
	C101,C102	(820µF/200V)	ACH1148
	C107,C222,C229		CEHAT101M25
	C108		CEHAT1R0M50
	C110		CEHAT220M50
	C103		CKCYB561K50
	C109		CKCYF103Z50
	C104		CQMA182J50
	C106		CQMA473J50
	C105		CQMA822J50
	C242,C243	(4700pF/250V)	ACE1105
	C210	(100pF/2kV)	ACG-032
	C201	(560µF/160V)	ACH1146
	C205	(8200µF/25V)	ACH1304
	C215,C216		CCCSL101K2H
	C211-C214		CCCSL221K2H
	C209		CEHAT100M2A
	C208,C220,C234,C236,C241		CEHAT100M50
	C226		CEHAT102M16
	C231		CEHAT1R0M50
	C202		CEHAT222M50
	C245		CEHAT331M16
	C203,C204,C207		CEHAT332M35
	C235		CEHAT470M25
	C247		CEHAT472M10
	C218,C246		CFTLA104J50
	C251		CFTLA563J50
	C217		CKCYE103P2H
	C219,C223,C224,C227		CKCYF103Z50
	C228,C230,C237,C238		CKCYF103Z50
	C244		CKCYF473Z50
	C232		CQMA104J50
	C906	(0.01µF/250V)	ACE1138
	C905	(0.1µF/250V)	ACE1144
	C914,C915	(0.01µF/250V)	ACG-501
	C912		CEHAT100M50
	C909		CEHAT1R0M50
	C908		CEHAT331M10
	C907		CEHAT331M16
	C910,C911,C913		CEHAT470M25
	C901		CEHAT470M2D
	C902		CFTLA104J50
	C916		CQMA104J50

RESISTORS

Mark	No.	Description	Part No.
	R102,R901	(2.2Ω)	ACN1128
	R120,R123	(2.2MΩ,1/2W)	RCN1080
	R106		RD1/2MMF100J
	R112		RD1/4MUF681J
	R117		RS1MMF151J
	R104,R105		RS1MMF333J
	R103		RS1MMF473J
	R109-R111		RS2MMFR22J
	R121,R122		RT10PZ120K
	R101		RT5PZ1R8K
	R207		RN1/4PC1502F
	R216		RN1/4PC1503F
	R212,R213		RN1/4PC1603F
	R208		RN1/4PC1801F
	R209		RN1/4PC2701F
	R204		RN1/4PC2702F
	R205,R206		RN1/4PC3301F
	R214		RN1/4PC3901F
	R217		RN1/4PC6801F
	R210		RS2MMF223J
	R219,R249		RS2MMF2R2J
	R201		RS2MMF472J
	R246,R251		RS2MMF821J
	R252		RS3LMF4R7J
	R218,R247		RT10PZ100K
	R248		RT7PZ8R2K
	VR201		VRTHS6VS102
	R903		RD1/4MUF103J
	R906		RN1/4PC1501F
	R907		RN1/4PC1801F
	VR901		VRTHS6VS102
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
⚠	FU101	FUSE (10A)	AEK1069
⚠	FU201	FUSE (4A)	REK1082
⚠	FU204	FUSE (5A)	REK1083
⚠	FU202,FU203	FUSE (6.3A)	REK1085
	8001	SPACER	AEB1243
	H101,H102	FUSE HOLDER	AKR1007
	H201-H208	FUSE HOLDER	AKR1003
	CN212	PLUG 3-P	KM250MA3
	CN901	PLUG 2-P	AKM1127
	CN101	PLUG 2-P	AKM1156
	CN205	PLUG 10-P	KM250MA10
	CN207	PLUG 12-P	KM250MA12
	CN206	PLUG 4-P	KM250MA4
	CN204	PLUG 6-P	KM250MA6
	8004	SCREW	BBZ30P080FCU
	8009	SCREW	BBZ30P080FZK
	8008	SCREW	ABZ30P100FMC
	8000	SCREW	PBZ30P100FMC
	8010	SCREW	PMB30P100FMC
	8003	SCREW	PMZ30P100FZK

Q POWER SW ASSY

SWITCH

Mark	No.	Description	Part No.
	S5081		ASG1084

OTHERS

Mark	No.	Description	Part No.
	CN5081	PLUG 2-P	AKM1127

R FRONT INPUT ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q5041,Q5042		2SC2712
	D5041,D5042		RD15MB

CAPACITORS

Mark	No.	Description	Part No.
	C5043,C5044		CEV1R0M50
	C5041		CEV470M16
	C5042,C5045		CKSRYF103Z50

Mark	No.	Description	Part No.

RESISTORS

	R5043		RD1/4LMF101J
	R5052,R5053		RS1/10S221J
	Other Resistors		RS1/16S☐☐☐J

OTHERS

	CN5042	PIN JACK (3P)	AKB1261
	CN5041	PLUG 13-P	KM250MA13

S FRONT CONTROL ASSY

SWITCHES

	S5001-S5008		ASG1034

CAPACITORS

	C5003		CEV101M6R3
	C5004,C5005		CKSRYF103Z50

RESISTORS

	All Resistors		RS1/16S☐☐☐J

OTHERS

	J5001	7P HOUSING WIRE	ADX2500
	CN5001	PLUG 8-P	KM250MA8

T LED DPO ASSY

SEMICONDUCTORS

	Q5001,Q5005		2SA1162
	Q5002		2SC2712
	D5002		1SS181
	D5007		AEL1177
	D5008		SLR-56PC(LMN)
	PC5001		P1241-09

CAPACITORS

	C5001		CEV100M16
	C5002		CEV330M25

RESISTORS

	R5001		RD1/2LMF820J
	R5006		RS1/10S332J
	R5004		RS1/2S821J
	VR5001		VRTS6VS473
	Other Resistors		RS1/16S☐☐☐J

OTHERS

	5001	DPO HOLDER	AMR2294